LAKESIDE EDUCATION TRUST

LAKESIDE EDUCATION TRUST
31st ANNUAL CME PROGRAMME

"DIAGNOSTIC DILEMMAS IN CLINICAL PRACTICE"



28th July 2013
Sunday

Hotel Atria
Bangalore

With Best Compliments from :

SANTOSH DIAGNOSTIC & SCAN CENTRE

No. 69, St. John's Church Road, Near Coles Park, Bangalore - 560 005.
Ph: 2556 7707, 4125 2600, 4125 1401. Fax: 080-2554 2425 E-mail: santoshdiag@sify.com

PROFILE



Santosh Diagnostic & Scan Centre is a premier multi speciality diagnostic centre in Bangalore east. It specialises in providing complete investigations in Radiology & Pathology with state of the art technology keeping in view the rapid global advancement in the field of diagnostics. We endeavour to provide our patients timely, accurate, cost effective and error free results from the widest test menu. Constant upgradation of equipments, introduction of newer diagnostic parameters, automation & strict quality assurance are the hall marks of this centre. Majority of the test results including specialised tests are reported and delivered on the same day.

The centre has efficient, knowledgeable, qualified & dedicated staff to provide the best possible services. The centre provides under one roof the following facilities.

- MRI Scan
- Somotom Emotion 6 CT Scan
- Full fledged laboratory - Routine and Special Tests
- Routine and diagnostic
- Computerised Radiogra
- Ultrasound and Color
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- Orthopentamogram (O
- Cancer screening
- Master health checkup/
- 24 hrs. free ambulance
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LAKESIDE EDUCATION TRUST

BANGALORE

31st ANNUAL CME PROGRAMME

"DIAGNOSTIC DILEMMAS IN CLINICAL PRACTICE"

on Sunday 28th July 2013

at

Hotel Atria, Bangalore

Co-Sponsors

H.P. Foundation

I.A.P. Karnataka State

Pediatric Association of India

I.A.P. Bangalore Branch (BPS)

I.M.A. Bangalore - East Branch

Pediatric Association of Bangalore

Lakeside Medical Center and Hospital

The Respiratory Chapter of IAP Karnataka

IAP Allergy & Applied Immunology Chapter

The Chairman and Trustees of the

Lakeside Education Trust (Regd.)

33/4, Meanee Avenue Road, Near Ulsoor Lake, Bangalore - 560 042. INDIA

are pleased to invite you to the

31st Annual CME Programme on

"Diagnostic Dilemmas in Clinical Practice"

on Sunday 28th July 2013, at 10.30 am
at Hotel Atria, Bangalore

Inauguration by Chief Guest

Dr. B.N. Dhanyakumar

Director, Directorate of Health & Family Welfare Services, Bangalore

Dr. J. Alexander IAS (Rtd.)

Former Minister for Tourism, Govt. of Karnataka

has consented to be the guest of honour

Felicitation of

Dr. C.N. Manjunath

Professor & Head of Cardiology

Director, Sri. Jayadeva Institute of Cardiovascular Sciences & Research, Bangalore

For remarkable services in the field of Cardiology & Cardiovascular Research

Dr. Niranjana S. Mahantashetti

President IAP, Karnataka State Branch

has consented to release the Souvenir

PROGRAMME

Compere	: **Ms. Rashmi C. Paramesh**
	: **Ms. Suja George**
Invocation	: **Ms. Rhea George**
Welcome Address	: **Dr. H. Paramesh**
Introduction of the Conference Theme	: **Dr. Salim Khatib**
Lighting of Lamp	: **Dignitaries**
Inauguration of CME & Address by Chief Guest	: **Dr. B.N. Dhanyakumar**
Introduction of Felicitee	: **Prof. Elizabeth C. Paramesh**
Felicitation by	: **Dr. H. Paramesh**
Response from Felicitee	: **Dr. C.N. Manjunath**
Address by Guest of Honour	: **Dr. J. Alexander IAS (Rtd.)**
Release of Souvenir	: **Dr. Niranjana S.M.**
Vote of Thanks	: **Prof. Elizabeth C. Paramesh**

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FACULTY

1 **Dr. Prof. Karunakara**
Bangalore

2 **Dr. Arvind Shenoi**
Bangalore

3 **Prof. Mallikarjuna H.B.**
Bangalore

4 **Dr. Sumitha Nayak**
Bangalore

5 **Sri. Auto Raja**
Bangalore

6 **Prof. Shantharam Baliga**
Mangalore

7 **Dr. Arundhati**
Gulbarga

8 **Prof. Ravi Chander**
Bangalore

9 **Dr. Salim A. Khatib**
Bangalore

10 **Prof. P. Raghupathy**
Bangalore

11 **Dr. Prahlad Kumar A.**
Bangalore

12 **Dr. Ilin Kinimi**
Bangalore

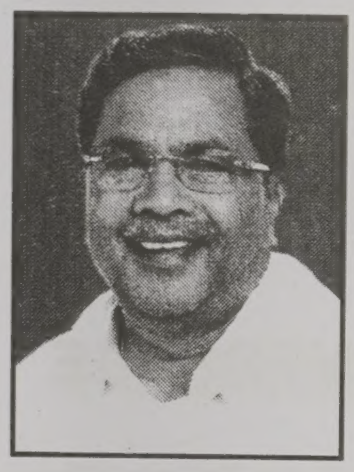
13 **Dr. Intezar Mehdi**
Bangalore

14 **Prof. Sylvan John Rego**
Bangalore

PROGRAMME

"Diagnostic Dilemmas in Clinical Practice"

08.15-09.00	:	**Registration**	
09.00-10.00	:	**Session I**	
		Chairpersons	: ***Prof. Niranjan Mahantha Shetti, Dr. Vasudev Dhanajay & Prof. Srinivas***
Topic	:	**Intricacies of temperature recording in children**	: ***Dr. Prof. Karunakara***
		Does vigorous gastric lavage needed in a neonate with meconium stained omnitic fluid?	: ***Dr. Arvind Shenoy***
		Is metabolic screening of neonates cost effective?	: ***Prof Mallikarjun H.B.***
		Head ache in children : Does it need investigations?	: ***Dr. Sumitha Nayak***
	:	**Discussion**	
10.00-11.00	:	**Inauguration**	
11.00-11.30	:	**Coffee break**	
11.30-12.30	:	**Session II**	
		Chairpersons	: ***Dr. Gnana Murthy & Dr. N.P. Vishwanathan***
		7th Sri. Haralappa and Smt. Parvathamma Memorial Oration	
Topic	:	**"Where has the Compassion from Health Care Services Disappeared?"**	: ***Sri. Auto Raja***
		17th Dr. O. Ganesh Memorial Oration	
Topic		**Hypertension in Children : When do we use pharmacotherapy?**	: ***Prof. Shantharam Baliga***
12.30-01.30	:	**Session III**	
		Chairpersons	: ***Prof. Govindaraj, Dr. Ravishankar & Dr. Somasekhar***
Topic	:	**Abdominal pain in a child when can I investigate**	: ***Dr. Arundathi***
		Leg Pain in children. Does it warrant investigation?	: ***Prof. Ravichandran***
		Wheezing infant when can I call it as asthma?	: ***Dr. Salim Khatib***
		Obesity Management : Diet v/s Medicine	: ***Prof. Raghupathy***
01.30-02.15	:	**Lunch**	
02.15-03.30	:	**Session IV**	
		Chairpersons	: ***Prof. Santhosh Soans & Dr. Prasad***
Topic	:	**Heart murmurs does it need intervention?**	: ***Dr. Prahlad Kumar***
		Snoring in children - Can we ignore	: ***Dr. Iline***
	:	**Discussion**	
		In Leukemias : Chemotherapy v/s Bonemarrow transplant	: ***Dr. Intezar***
		Chest Pain in children : How significant?	: ***Prof . Sylvan John Rego***
	:	**Discussion**	
		DelCure Life Sciences Ltd. Introduction	
03.30-04.30	:	**Session V**	
		Panel Discussion	
		Chairpersons	: ***Dr. Vaman Acharya & Dr. Govindarajulu***
Topic	:	**Solid Waste is a major cause for health disorders What health professionals should know and teach others**	
		Panelist KSPCB	: ***Mr. Nandakumar***
		Phana representative	: ***Dr. Arvind Gubbi***
		President I.A.P.infective diseases Chapter Kannada	: ***Prof. Narayanappa***
		BBMP Health Officer	: ***Dr. Nagaraj. S.B.***
04.30-05.00	:	**High Tea**	



Vidhana Soudha
Bangalore - 560 001

No. CM/PS/96/2013

July 19, 2013

MESSAGE

I am glad to learn that Lakeside Education Trust is bringing out a Souvenir on **Diagnostic Dilemmas in Clinical Practice,** on the occasion of its 31st Annual Continuing Medical Education Programme.

The efforts of Lakeside Education Trust in promoting Medical Education among the practitioners of Pediatrics are laudable and worth emulating.

I hope the Souvenir will be a beacon-light to the **World of Pediatrics** and a guide to the Pediatrcians.

Siddaramaiah
Chief Minister of Karnataka



MESSAGE

The Lakeside Education Trust being a Private Charitable Trust, has always shown its commitment for propagating knowledge & research by organizing CMEs and Conferences for decades. It is commendable that Dr. H Paramesh and his team have uninterruptedly held a continuing medical education program for Pediatricians for the last thirty years. This program is known for excellent academic sessions and has always been an attraction to the Pediatricians of Karnataka. Dr. H Paramesh, known to be an academician par excellence, has always invited experts not only from the country but all over the world. The sessions being interactive have played a major role in attracting the Pediatricians.

It gives me immense pleasure to know that on this occasion Dr. C N Manjunath, Professor & Head, Department of Cardiology at Sri. Jayadeva Institute of Cardio Vascular Sciences and Research, Bangalore will be felicitated. I am also glad that the Pediatricians also will be given Souvenir which will serve as a handbook.

I congratulate Dr. H Paramesh and his team for conducting this CME and specially so for choosing the theme **"Diagnostic Dilemmas in Clinical Practice"**.

Wishing the CME a grand success and the Pediatricians an academic feast.

Dr. (Mrs) N. S. Mahantshetti

President

Indian Academy of Pediatrics - Karnataka State Branch



MESSAGE

It gives me immense pleasure to write this message , on the grand occasion of the 31 st annual CME of the Lakeside Education Trust ' Diagnostic dilemmas in pediatric practice' being held on the 28 th july 2013 at the Hotel Atria, Bangalore.

The Trust has been active over the past few decades in the field of medical and paramedical education, in community service and advocacy of the environment. Hundreds of members of the pediatric fraternity have benefited by the annually conducted CMEs.

The Lakeside annual Cme has become an eagerly awaited event in the IAP BANGALORE calendar ever since it began.

I wish the CME all success, and Dr Paramesh good health and peace, and many many years in continued service of the child.

In academy service

Dr. Shubha Badami

President

Indian Academy of Pediatrics, Bangalore



MESSAGE

I am pleased to note that the 31st Annual CME of the Lakeside education Trust will be held on 28th July 2013, at Hotel Atria. The Education Trust has a great tradition in conducting education programs every year and highlighting relevant and interesting topics each year.

This year too, the conference with topic of "Diagnostic Dilemmas in clinical practice", will deliberate on challenges in diagnosis and is especially relevant in view of newer diagnostic modalities available. The clinical diagnosis combined with hematological , radiological and other methods will hopefully clarify the dilemmas. I would like to stress the importance of documentation of all investigation reports in view of increasing legal implications.

I wish the Lakeside education trust, ably guided by Dr. Paramesh, a pioneer in the field of pediatrics, all success in holding the conference. My good wishes to Mrs. Elizabeth Cherian, Executive Co-ordinator of the Education Trust, who has tirelessly striven to arrange these programs every year.

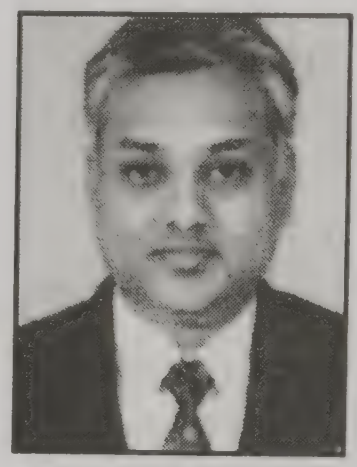
Finally, I hope all the delegates and the speakers at the conference will have excellent scientific discussions which will benefit their clinical practice.

Dr. V. Chandrashekar Rao

President

Indian Medical Association

Bangalore East



MESSAGE

I am extremely proud to be sending this message for the Souvenir to be released during the 31st Annual CME of Lakeside Education Trust.

It has been my honour to have Dr.Paramesh as my teacher. He has been my professional and personal mentor and I cherish my association with my teacher.

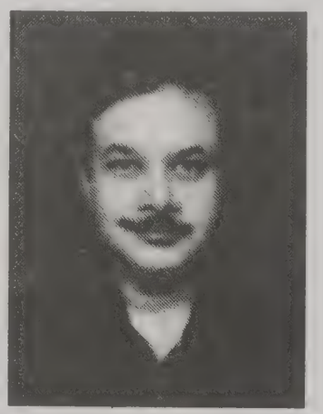
Thirty years of CMEs and now the thirty first CME under the Chairmanship of Dr. H. Paramesh is no ordinary feat. Congratulations to Dr. H. Paramesh and team for this successful ongoing mission of propagating and updating skills and knowhow which add to the efficiency of the practicing pediatricians.

The topic "Diagnostic Dilemmas is clinical practice" is certainly a frequently countered issue of practicing pediatricians. This CME, I am sure will certainly throw light on several such dilemmas and enlighten the esteemed delegates. Congratulations again to Lakeside Education Trust for this commendable annual feature.

Dr. Salim Khatib

President

IAP Respiratory Chapter, Bangalore



MESSAGE

I thank the almighty for the privilege of being part of the 31st Annual CME of the Lakeside Education Trust.

This annual feature has become an integral part of a practitioner's professional life and an event looked forward to year after year.

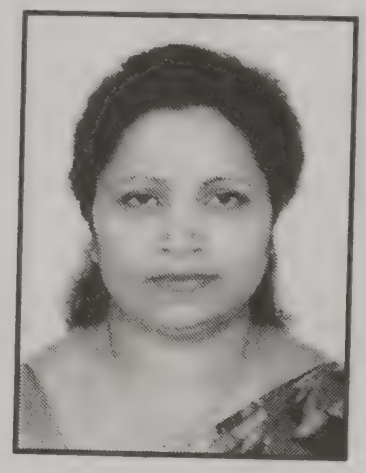
Congratulations to Dr. H. Paramesh and his team for the relentless efforts in conducting the CMEs continuously for thirty one years.

I wish the CME every success and congratulate the team for this exemplary effort. Such CMEs conducted at regular intervals serve as a boon to every practioner and provides hands on learning opportunity.

I am extremely fortunate and proud to be associated with the Lakeside group of Institutions and consider it my privilege to belong to Lakeside Family.

Dr. K.G. Raviraj

RMO, Lakeside Medical Center and Hospital



THE CONFERENCE CO-ORDINATOR

The lakeside Education Trust has crossed the three decades mark and is now organizing the 31st Annual CME, truly a record of sorts!! Congratulations to Dr.H.Paramesh the chairman who has relentlessly put up these conferences year after year.

Diagnostic Dilemnas in Clinical Practice - the topic for the current CME is apt considering that several diagnoses are difficult to specifically arrive at considering the mimicking of symptoms and combination of signs of various diseases and varied presentation of the same disease in every other child.

The day long deliberations are intended to provide the practitioners with easier tips to specifically diagnose and effectively treat children.

I express my gratitude to all our well wishers for their continued support which has ensured regular conduct of the Annual CMEs year after year.

Congratulations to Dr.C.N. Manjunath on his felicitation by the Lakeside Education Trust in recognition of his services or humanity with a difference!

Prof. Elizabeth C. Paramesh

Executive Co-ordinator
Lakeside Education Trust



ABOUT OUR INSTITUTION "LAKESIDE MEDICAL CENTER AND HOSPITAL"

Dr. H. Paramesh

Our institution started with well wishers and friends from U.S.A as a private limited company. The out-patient department started in the year Nov 1981 and in-patients in July 1982. The primary objective has always been to provide quality care with affordable rates, promote **Preventive Health** to the society at large and propagate good education.

Our institution is a land mark hospital in Bangalore having distinction in many areas like

1. First private hospital to have a conference hall dedicated to the education of professionals and public. It is utilized by IMA, IAP, Epilepsy Association, Lakeside Education Trust activities, Rotary, Developmental Disability Association and Neurology Association, etc., free of cost.
2. First multispeciality private pediatric institution.
3. First child in Bangalore survived after Tracheoesophageal fistula (TEF) operation.
4. First Coronary bypass operation in Karnataka conducted here, successfully for Rs. 7500.
5. First Kidney Transplant operation in Karnataka was done here and the highest number and also youngest child in India underwent Kidney Transplants.
6. First institute in which checking Hepatitis - B before blood transfusion was mandatory in Bangalore.
7. First Institution to use Glycosylated Hemoglobin to assess diabetic patients.

8. First institution to use Nebulisation, Peak flow and Spirometry in children in Karnataka.

9. The research work done here has been utilized by Supreme Court of India to clean up major cities from air pollution, discussed in the Parliament to help the traffic police officers and to ban tobacco smoke in Karnataka leading to Supreme Court of India rulings on these issues.

10. First institution to accept all accident patients even before Supreme Court decision.

11. First private institution to accept H1N1 influenza patients in India in 2009.

12. Preferred Institution in Bangalore for **yellow fever** quarantine.

13. Did Research work on T.V. Viewing & Calorie intake to Padova University Italy.

We have achieved these mile stones with the satisfied customers, who came with trust and hope for medical help, predominantly the middle class population.

The institution suffered a severe economic blow from minority share holders who relinquished their shares for real estate values. For the past 3 ½ years we could not improve and update our institution due to financial constraints.

We joined new associates, with an aim of upgrading the facilities and providing the highest levels of care to the patients. However we had to face unexpected delays and are in the process of ensuring that, the hospital is totally functional at the earliest.

I am grateful to the Almighty for His grace and benevolence in giving me the health and strength to conduct the CME program for thirty years. I am indebted to all my professional colleagues, staff of the hospital and the Trust and of course my family who have made this possible and seek your continued support as I believe that learning has no end and sharing knowledge is a great Virtue!!

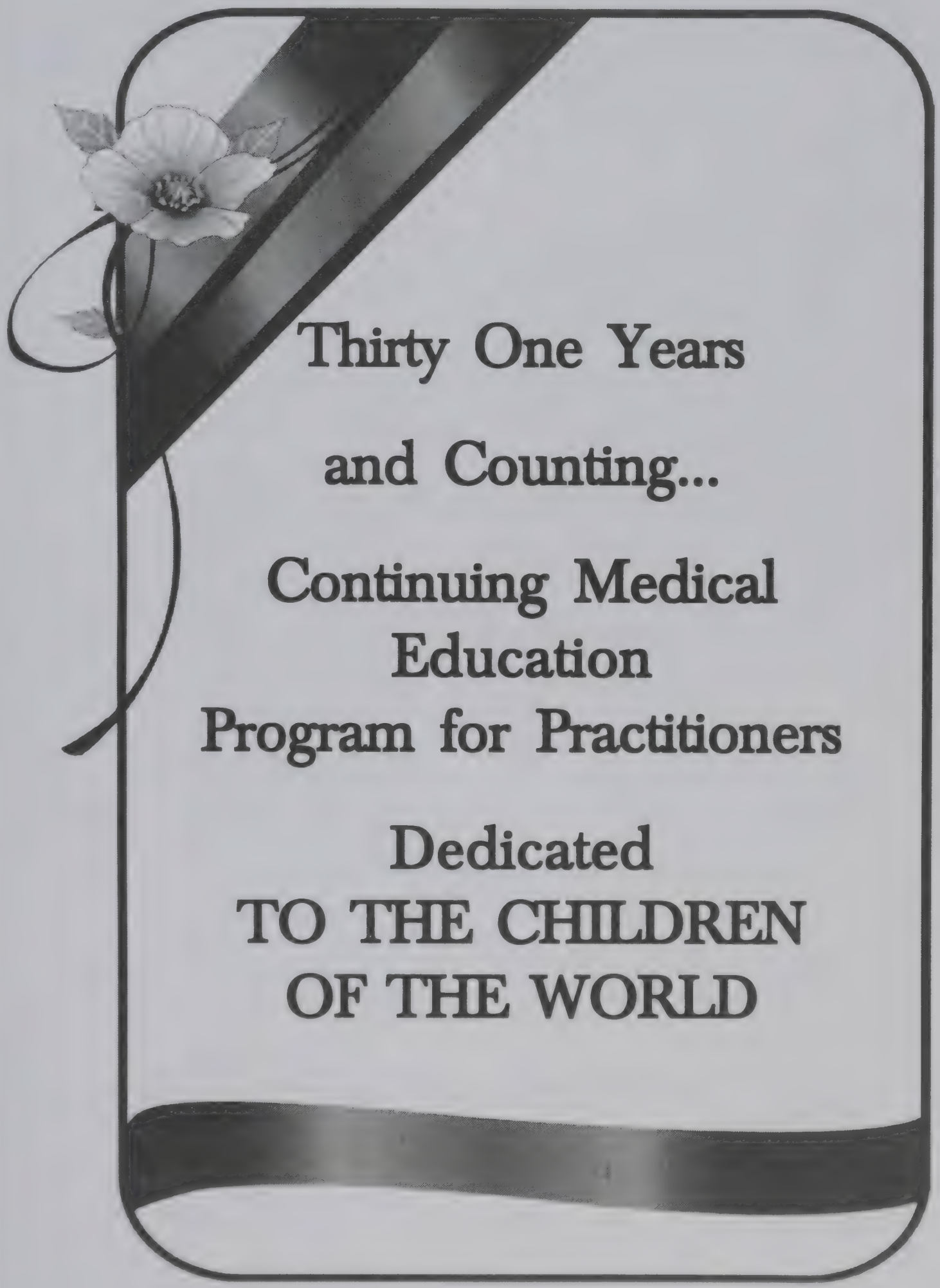
"The richest are those who have gained and shared knowledge"

Jai Hind. Jai Karnataka

LAKESIDE EDUCATION TRUST

TOPICS OF ANNUAL CME PROGRAMMES

Sl. No.	ANNUAL	YEAR	TOPIC
1.	I	1983	*Pediatric Pulmonary Diseases*
2.	II	1984	*Pediatric and Adult Cardiology & Fluid Electrolytes and Acid Base Balance*
3.	III	1985	*Pediatric Orthopaedic Problems*
4.	IV	1986	*Emergencies in New Born*
5.	V	1987	*Pediatric Hematology*
6.	VI	1988	*Infectious Diseases in Children*
7.	VII	1989	*Update in Pediatrics*
8.	VIII	1990	*Clinical Pediatrics*
9.	IX	1991	*Sports and Your Child*
10.	X	1992	*Adolescent Medicine*
11.	XI	1993	*Rational Drug Therapy in Pediatrics*
12.	XII	1994	*Critical Care in Pediatrics*
13.	XIII	1995	*Practical Pediatric Pulmonology for Practitioners*
14.	XIV	1996	*Pediatric Neurology for Practitioners*
15.	XV	1997	*Recent Advances in Pediatrics for Practitioners*
16.	XVI	1998	*Preventive Strategies in Pediatric Practice*
17.	XVII	1999	*Practical Pediatric Nutrition for Practitioners*
18.	XVIII	2000	*Difficult Case Scenarios Encountered In Pediatric Practice*
19.	XIX	2001	*Evidence Based Medicine for Practising Pediatricians*
20.	XX	2002	*Psychosocial Pediatrics*
21.	XXI	2003	*Recent Trends in Pediatric Practice*
22.	XXII	2004	*Persistent Problems in Pediatric Practice*
23.	XXIII	2005	*Pot Pourrie for the Practising Pediatrician*
24.	XXIV	2006	*Allergic Diseases in Pediatric Practice*
25.	XXV	2007	*Myths and Facts in Child Care*
26.	XXVI	2008	*Influence of Genetics, Race, Religion and Ethnicity in Child Care*
27.	XXVII	2009	*Pitfalls in Pediatric Practice*
28.	XXVII	2010	*Newer Concepts in Allergic Diseases in Children*
29.	XXIX	2011	*Back To Basics In Pediatric Practice*
30.	XXX	2012	*Mitigation of Non-Communicable Diseases in Children - Measures for Practitioners*



Thirty One Years

and Counting...

Continuing Medical
Education
Program for Practitioners

Dedicated
TO THE CHILDREN
OF THE WORLD

STALWARTS OF SOCIETY HONOURED THUS FAR.....

Dr. R.M. Varma	1985
Dr. G. Mascarenhas	1986
Dr. S.R. Chandrashekar	1987
Dr. R.B. Patil	1988
Dr. Shambulingappa	1989
Dr. G.N. Narayana Reddy	1990
Dr. H.K. Srinivas Murthy	1991
Dr. Sampath Loganadan	1992
Dr. T.S. Jairam	1993
Dr. H. Sudarshan	1994
Dr. K. Thimmappiah	1995
Dr. Sulochana Gunasheela	1995
Dr. K.G. Das	1996
Dr. P.C. Bopaiah	1996
Dr. S.G. Desai	1997
Dr. K.S. Shadaksharappa	1998
Dr. Benjamin Isaac	1999
Dr. P. Narayan	2000
Dr. Prithvi Raval	2001
Dr. Ganesh Nayak	2002
Dr. Sanjeev Rai B.	2003
Dr. K. Dodde Gowda	2004
Dr. C.M. Gurumurthy	2005
Dr. Maddur S. Mahadeviah	2005
Dr. Hulinaykar Mallappa Rangappa	2006
Dr. P.S. Shankar	2007
Dr. A. Mahadeviah	2008
Dr. K.S. Nagesh	2008
Dr. Vasudev Ramacharya Pandurangi	2009
Dr. Rajan Deshpande	2010
Dr. T. Rajeshwari	2010
Dr. V.D. Patil	2011
Dr. L. Appaji	2012

The Management and Trustees of
Lakeside Education Trust (Reg) Bangalore, India
are proud to felicitate



Dr. C.N. Manjunath

Professor and Head of Cardiology
Director, Sri Jayadeva Institute of Cardiovascular Sciences
and Research, Bangalore, India

For remarkable services in the field of Cardiology
and Cardiovascular Research

Lakeside Education Trust

31st Annual CME

"DIAGNOSTIC DILEMMAS IN CLINICAL PRACTICE'

28th July 2013

ORATIONS



17th Dr. O. Ganesh Memorial Oration

Awarded to

Dr. B. Shantharam Baliga

Professor and HOD, Pediatrics, Kasturba Medical College, Mangalore



7th Sri. Haralappa, Smt. Parvathamma Memorial Oration

Awarded to

Sri. T. Raja (Auto Raja)

Social worker, Bangalore

LAKESIDE MEDICAL CENTER AND HOSPITAL

33/4, Meanee Avenue Road, Bangalore - 560 042

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Dr. Raviraj K.G - Resident Medical Officer

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PEDODONTIST Dr. Shanthala	UROLORY Dr. Chandrasekhar Rao	FAMILY PHYSICAN Dr. Arafath Hamid Khan

Don't save what is left after spending. Spend what is left after saving

- Warren Buffett

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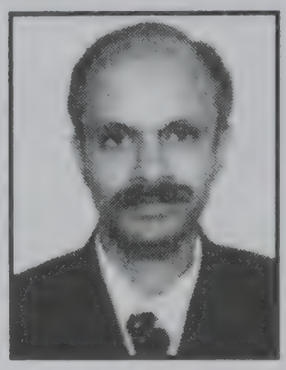
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OTHER STAFF

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GASTRIC LAVAGE IN INFANTS BORN THROUGH MECONIUM STAINED AMNIOTIC FLUID



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Meconium staining of amniotic fluid (MSAF) occurs in about 5-15% of the deliveries. Meconium is composed of intestinal epithelial cells, lanugo, mucus, amniotic fluid, bile, and water. Aspiration of meconium into the lungs results in meconium aspiration syndrome (MAS) one of the known complications occuring in about 20% babies bornthrough MSAF. MAS results from mechanical blockage of airways by meconium and also chemical irritation of the lung parenchyma. A significant number of babies born through MSAF end up swallowing the meconium. An age old practise of gastric lavage aims at preventing the meconium induced gastritis. Swallowed meconium could cause chemical irritation of the stomach resulting in feeding problems such as nausea or vomiting. Narchi et al found that infants born through MSAF are at 2.8 times more risk of developing feeding problems such as retching, vomiting, slow feeding or poor suck.[1] This communication reviews whether the practise of gastric lavage in neonates bornthrough MSAF is evidence based.

Often the routine practice in most of the hospitals is to perform gastric lavage in infants who have symptoms such as nausea and vomiting even if they are not born through MSAF.[2] In infants born through MSAF, gastric lavage is performed often soon after birth to avoid gastric complications due to meconium and also to prevent secondary aspiration in to the lungs.

Even though gastric lavage is a simple procedure which does not require majorexpertise to perform, advantage, cost effectiveness of the intervention and the inherent complications of this practice need to be examined before routinely

subjecting any neonate to gastric lavage. Almost 70% of pharyngoesophageal perforations have been attributed to routine postpartum suctioning and nasogastric tube insertion in a case series involving premature infants.[3]

Two trials have examined the role of gastric lavage in infants born through MSAF. The study by Narchi et al involving 275 infants in GL group and 262 infants in the control group, did not find any significant difference in the incidence of feeding difficulties following GL.[4] Similarly, a study from India also found that incidence of feed intolerance in the lavage group (n = 124) did not decrease significantly when compared to infants in control group (n = 120), (p = .309; OR 0.69; 95%CI 0.27-1.58).[5]

Feeding difficulties which are noted in these infants are probably related to asphyxia rather than the mechanical or chemical effects of meconium in stomach. Gastric lavage could potentially be harmful in these infants without any added advantage and hence this practice should be avoided.

References:

1. Narchi H, Kulaylat N. Feeding problems with the first feed in neonates withmeconium-stained amniotic fluid. Paediatr Child Health. 1999 Jul;4(5): 327-30.
2. Cuello-García C, González-López V, Soto-González A, López-Guevara V,Fernández-Ortiz SJ, Cortez-Hernández MC. [Gastric lavage in healthy term newborns: a randomized controlled trial]. An Pediatr (Barc). 2005;63(6):509-13.
3. Sapin E, Gumpert L, Bonnard A, Carricaburu E, Sava E, Contencin P, Helardot PG. Iatrogenic pharyngoesophageal perforation in premature infants. Eur J Pediatr Surg. 2000 Apr;10(2):83-7.
4. Narchi H, Kulaylat N. Is gastric lavage needed in neonates with meconiumstained amniotic fluid? Eur J Pediatr. 1999 Apr;158(4):315-7.
5. Ameta G, Upadhyay A, Gothwal S, Singh K, Dubey K, Gupta A. Role of gastric lavage in vigorous neonates born with meconium stained amniotic fluid. Indian J Pediatr. 2013;80(3):195-8.

IS NEWBORN SCREENING COST EFFECTIVE ?

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Introduction

Newborn Screening refers to the process where babies are screened after birth to see if they have a genetic or metabolic disorder[Inborn Errors of Metabolism (iEM)] that may be life threatening and/or cause intellectual disability or physical disability.[1] Neonatal screening is the best known and most widely used genetics-related preventative pediatric public health initiative in the world.[1]

Objective is to detect the conditions before the onset of symptoms so treatment can be started early to reduce the effect of the condition.[1]

Why is NBS needed?

As per recent data out of 140 million children are born every year around the world, the overall incidence of metabolic disorder is 1:1350[2] .Universal screening for metabolic disorders is mandatory in US,Europe and many other countries across the world.

Routine Newborn Screening be mandatory for all neonates in India? Evidence

Though the exact incidence and prevalence of most of the disorders is not known as we do not have large population based studies, some information is available to have an idea about the disease burden in India.

Homocysteneimia, hyperglycinemia, MSUD, PKU, hypothyroidism and G6PD deficiency were found to be the common errors(1,25,000 newborns.[4]).

Another pilot expanded newborn screening started in 2000 at Hyderabad testing a total of 18300 babies, the results revealed a high prevalence of CH (1in 1700), then congenital adrenal hyperplasia followed by G6PD deficiency and then aminoacidopathies.

All major IEM have been reported in the Indian literature. [3,4,5,6]

The data on "Universal Newborn Screening" from the state of Goa suggests that the overall incidence of IEM is as high as 6 per 1000 live births!

Ideal age for doing the NBS?

Donebetween 3 and 7 days of age.[8,9,10.] Usually after the baby has taken breast milk and hence the toxic metabolites and byproducts in IEM's cannot be detected biochemically until at-least 12 hours after the baby has taken feeds.

Criteria for screening for NBS [11]

- Group 1 (all newborns): Congenital hypothyroidism, Congenital Adrenal Hyperplasia, G 6 PD Deficiency disorder arethe disorders that can be strongly recommended in the routine newbornmetabolic screening in our country due to following reasons (High incidence, easily missed at birth, definitive treatment available, definitive test available to diagnose the conditions, cost of diagnosis would be only around Rs.250 to 300, If missed early in the neonatal period , the child could end up having irreversible damage (CH, CAH), In case of G 6 PD deficiency the drugs provoking the hemolysis could be avoided, treatment of these disorders is affordable in most settings in the present scenario)
- Group 2 (Screening In the High Risk Population): The following disorders can be screened in the high risk population (Previous children with unexplained mental retardation, seizure disorder, previous unexplained sibling deaths with features suggestive of IEM, critically ill neonates, newborns/ children with symptoms/signs/ investigations suggestive of IEM and consanguinity)

- Phenylketonuria
- Homocystinuria
- Alkaptonuria
- Galactosemia
- Sickle-cell anemia and other hemoglobinopathies,
- Cystic fibrosis
- Biotinidase deficiency
- Maple syrup urine disease
- Medium-Chain Acyl-Coenzyme A Dehydrogenase Deficiency (MCAD)
- Tyrosinemia
- Fatty Acid Oxidation Defects

However the detection of these disorders early in life is useful in genetic counseling of the affected family, which in turn can help prevent the recurrence of similar births. Currently efforts are being made to modify Indian diet to treat the metabolic disorders.

- Group 3(Screening in Resource Rich Settings): 'Expanded Newborn screening' for 30-40 inherited IEM's done by TMS can be offered to the 'well to do' especially in urban settings

? Follow up action if a screening test is positive

When results are positive, the time at which treatment is started is crucial to preventing morbidity, mortality and sequelae. Families must be informed of abnormal results as quickly as possible so that confirmatory diagnostic tests can be carried out, as outlined in the annexure specifically for each disorder. The family should be supported by a pediatrician who should explain the significance of positive screening results and the possibility of false positives and arrange referral for confirmatory testing.[1]

Comprehensive plan of NBS at state/national level to cover all neonates

The planning for NBS at state / national level will be a difficult task in our country with only about 60% deliveries being in the institutions. There is a need to integrate the NBS program to the existing health infrastructure.

Is the NBS program cost- effective ?

NBS is cost effective. The Government should help initiate more aggressive NBS through reducing custom's duty on equipment and consumables as also, by subsidizing the cost. Also, insurance companies can help by part funding the tests. Group A screening tests for CH, CAH and G6PD are very inexpensive and all efforts should be made by every Pediatrician to incorporate these screening tests in his package of care for the neonate under his treatment.

Though screening is a cost-intensive exercise, the benefits far exceed the costs as it helps in reducing the morbidity & morality of the disease.[12]

References

1. Letícia Lima Leão,Marcos José Burle de Aguiar. Newborn screening: what pediatricians should know. J Pediatr (Rio J). 2008;84(4 Suppl):S80-90:
2. Simone Albers, Harvey I. Levy; Newborn Screening, Avery's disease of Children, 8th edition, p 338-47.
3. Kumta.NB. Inborn error of metabolism-An Indian perspective. Indian J Pediatr 2005;72(4);325-332.
4. Devi AR, Rao NA, Bittles AH Newborn screening for aminoacidopathies in South India. In: Naruse H, Irie H, eds.Neonatal Screening. Amsterdam: Elsevier Science Publishers, 1983, 493–494
5. Rao NA, Devi AR, Savithri HS, Rao SV, BittlesAH.Neonatal screening for amino acidaemias in Karnataka, South India. ClinGenet 1988;34: 60–63.
6. Devi AR, NaushadSM. Newborn screening in India.Indian Journal of Pediatrics 2004; 71: 157–160.

7. Sanghvi U and Diwakar KK. Universal Newborn Screening for Congenital Hypothyroid. Indian Pediatrics, 2008;Volume 45__April 17.

8. Rockville, MD. Screening for Congenital Hypothyroidism; Topic Page. U.S. Preventive Services Task Force. March 2008. Agency for Healthcare Research and Quality, http://www.ahrq.gov/clinic

9. U.S. Preventive Services Task Force. Screening for Phenylketonuria (PKU): U.S. Preventive Services Task Force Reaffirmation Recommendation Statement. AHRQ Publication No. 08-05110-EF-2, March 2008. Agency for Healthcare Research and Quality, Rockville, MD.http://www.ahrq.gov/clinic/uspstf08/pku/pkurs.htm

10. Peter A. Lane M.D.Director, Colorado Sickle Cell Treatment and Research Ctr.University of Colorado Health Sciences CtrJanuary 9, 2001 http://sickle.bwh.harvard.edu/screening.html

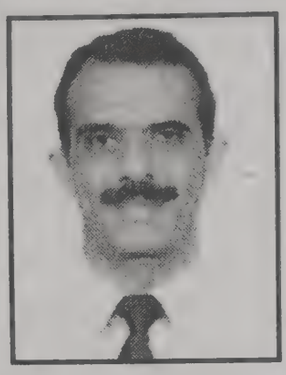
11. National NeonatalogyForum,India, Evidence based Clinical practice guidelines October 2010.

12. Jailkhani R, Patil VS, laxman HB. Selective screening for inborn errors of metabolism in children: single center experience from Karnataka. Journal of Clinical and Diagnostic Research [serial online] 2008 Aug; (2): 952-958.

If you buy things you don't need, you will soon sell things you need
- Warren Buffett

17th DR. O. GANESH MEMORIAL ORATION LECTURE

HYPERTENSION - APPROACH AND MANAGEMENT



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Primary hypertension in children is increasing in prevalence with many cases likely going undiagnosed. The prevalence is currently estimated at between 3%–5% in the United States and may be higher in certain ethnic groups. Primary hypertension,is now considered to be about five times more common than secondary hypertension.The prevalence of hypertension in children and adolescents has increased in the past several years, likely as a result of the rise in childhood overweight and obesity.This may actually be an underestimate as clinicians fail to recognize high blood pressure in children and adolescents.Unlike in the adult population where absolute cutoffs exist based on observational studies, classification of blood pressure in children and adolescents is based on normative data derived from a national database of 70,000 healthy children in the US.

In children, hypertension is defined statistically because BP levels vary with age and gender and because outcome-based data are not available for this population. The Fourth Report of the National High Blood Pressure Education Program (NHBPEP) Working Group on High Blood Pressure in Children and Adolescents (2004) has recommended the following definitions (also see Table 1).

1. ***Hypertension*** is defined as systolic and/or diastolic pressure levels that are greater than the 95thpercentile for age and gender on at least three occasions. As with adults, adolescents with BP levels _120/80 mm Hg are considered hypertensive even if they are less than the 95th percentile.
2. ***Prehypertension*** is defined as an average systolic and/or diastolic pressure between the 90th and 95thpercentiles for age and gender.

3. When the BP reading is above the 95th percentile, one could further classify the hypertension into stages 1 and 2 as follows:

   a.Stage 1 hypertension is present when BP readings are between the 95th and 99thpercentiles.

   b. Stage 2 hypertension is present when BP readings are 5 mm Hg or more above the 99thpercentile values.

4. ***"White-coat hypertension"*** is present when BP readings in health care facilities are greater than the 95th percentile but are normotensive outside a clinical setting.

Table 1

	Adults		
BP Classification	**Systolic BP**	**Diastolic BP**	**Children and Adolescents**
Normal	<120	<80	<90th percentile
Prehypertension	120-139	80-89	90th-95th percentile
Stage 1 hypertension	140-159	90-99	95th-99th percentile
Stage 2 hypertension	≥ 160	≥ 100	≥ 5 mm Hg + 99th percentile value

Adapted from Chobanian AV, Bakris GL, Black HR, et al : The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation and Treatment of High Blood Pressure : The JNC 7 repot, BP, Blood Pressure.

* Pediatric classification is according to the Fourth Report on the Diagnosis, Evaluation and Treatment of High Blood Pressure in Children and Adolescents, Pediatric 111 : 555-576, 2004

MEASUREMENT OF BP IN CHILDREN

The Fourth Report recommended that children 3 yr or older should have their BP checked during every health care episode. Selected children <3 yr old should also have their BP checked,including those with a history of prematurity, congenital

heart disease, renal disease, solid organ transplant, cancer, treatment with drugs known to raise BP, other illnesses associated with hypertension, or evidence of increased intracranial pressure.

Instruments used

***Mercury sphygmomanometer**:* Normative values for blood pressure are based on sphygmomanometry, which continues to be the preferred method for blood pressure estimation. While it is recommended that blood pressure devices be calibrated and validated regularly, this process is cumbersome.

***Oscillometric devices**:* These devices are increasingly used in infants (in whom auscultation is difficult) and in intensive care settings when frequent blood pressure measurements are needed. However, neither are most Oscillometric devices validated for children, nor are there normative data based on these readings. Blood pressure values on oscillometry, which exceed the 90th percentile must therefore be confirmed by sphygmomanometry.

***Ambulatory blood pressure monitoring** (ABPM):* Continuous recordings over 12- or 24-hr arebelieved to reflect true blood pressures accurately,are more reproducible and correlate with targetorgan damage. A lack of availability of theseinstruments and normative standards has limitedthe utility of ABPM for the diagnosis ofhypertension in children.

Causes of Hypertension

Hypertension is classified into two general types: essential (or primary) hypertension, in which a specific cause cannot be identified, and secondary hypertension, in which a cause can be identified (table 2). More than 90% of secondary hypertension in non obese children is caused by three conditions: renal parenchymal disease, renal artery disease, and coarctation of the aorta (COA). The most common cause of hypertension appears to be overweight: about 10% to 30% of overweight children are reported to have high BP. With the prevalence of obesity increased, overweight and obesity may be the most common cause of pediatric hypertension.

Transient hypertension

Hypertension may be transient in certain conditions, *e.g.*, acute glomerulonephritis, acute intermittent porphyria, GuillainBarresyndrome, raised intracranial pressure, corticosteroid administration, anxiety and hyperthyroidism. Therapy for hypertension may be required in some cases. Persistence of elevated blood pressures requires detailed evaluation.

Sustained hypertension

Sustained hypertension in children is often secondary to an underlying renal disease approximately 60-70% patients have renal parenchymal disorders and 5-25% has renovascular disease. Coarctation of aorta is an important cause during infancy.

Table 2 Showing causes for secondary hypertension

Causes of secondary hypertension
Renal
Renal parenchymal disease
Glomerulonephritis, acute and chronic
Pyelonephritis, acute and chronic
Congenital anomalies (polycystic or dysplastic kidneys)
Obstructive uropathies (hydronephrosis)
Hemolytic - uremic syndrome
Collagen disease (periarteritis, lupus)
Renal damage from nephrotoxic medications, trauma, or radiation
Renovascular disease
Renal artery disorders (e.g., stenosis, polyarteritis, thrombosis)
Renal vein thrombosis

Cardiovascular

Coarctation of the aorta

Conditions with large stroke volume (patent ductus arteriosus, aortic insufficiency , systemic arteriovenous fistula, complete heart block) (these conditions cause only systolic hypertension)

Endocrine

Hyperthyroidism (systolic hypertension)

Excessive catecholamine levels

- Pheochromocytoma
- Neuroblastoma

Adrenal dysfunction

- Congenital adrenal hyperplasia
  - 11-β-Hydroxylase deficiency
  - 17-Hydroxylase deficiency

Cushing's syndrome

Hyperaldosteronism

- Primary
  - Conn's syndrome
  - Idiopathic nodular hyperplasia
  - Dexamethasone-suppressible hyperaldosteronism

Secondary

Renovascular hypertension

Renin – producing tumor (juxtaglomerular cell tumor)

Hyperparathyroidism (and hypercalcemia)

Neurogenic

Increased intracranial pressure (any cause, especially tumors, infections, trauma)

Poliomyelitis

Guillain Barre syndrome

Dysautonomia (Riley – Day syndrome)

Drugs and Chemicals

Sympathomimetic drugs (nose drops, cough medications, cold preparations, theophylline)

Amphetamines

Steroids

Nonsteroidal anti-inflammatory drugs

Oral contraceptives

Heavy-metal poisoning (mercury, lead)

Cocaine, acute or chronic use

Cyclosporine

Miscellaneous

Hypervolemia and hypernatremia

Stevens-Johnson syndrome

Bronchopulmonary dysplasia (newborns)

Evaluation

The evaluation of the child with chronic hypertension should be directed toward uncovering potential underlying causes of the hypertension, evaluating for co-morbidities, and screening for evidence of target organ damage. The extent of the evaluation for underlying causes of hypertension depends on the type of hypertension that is suspected. When secondary hypertension is a strong consideration, as in younger children with severe and symptomatic hypertension, an extensive evaluation may be necessary (Fig.1).

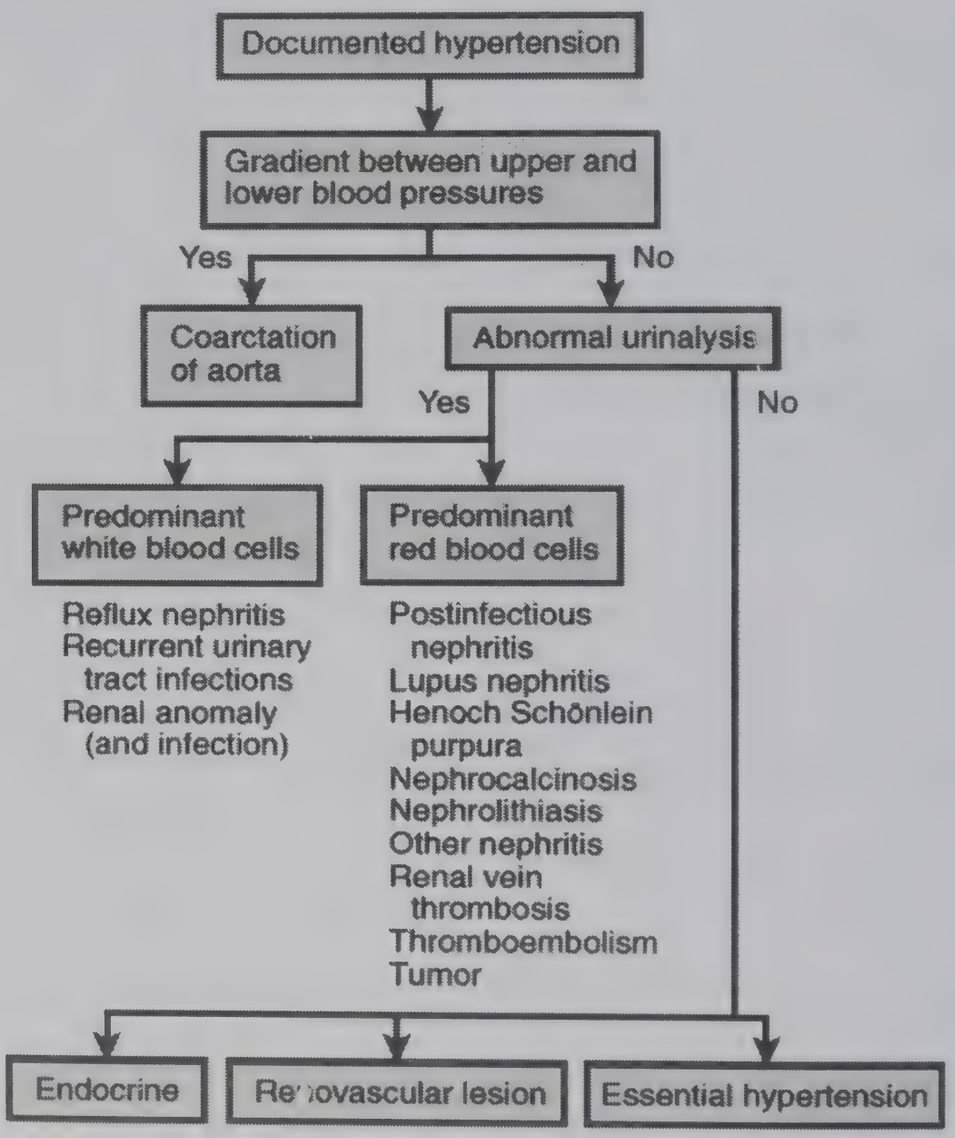


Figure 439-2 Initial diagnostic algorithm in the evaluation of hypertension. (From Kliegman RM, Greenbaum LA, Lye PS: *Practical strategies in pediatric diagnosis and therapy*, ed 2, Philadelphia, 2004, Elsevier, p 222.)

In all cases, a careful history and physical examination are warranted. A family history for early cardiovascular eventsshould be obtained. Growth parameters should be determined todetect evidence of chronic disease. BP should be obtained in all 4 extremities to detect coarctation (thoracic or abdominal) of the aorta. Unless the history and physical examination suggest another cause, children with confirmed hypertension should have an evaluation to detect renal disease, including urinalysis, electrolytes, BUN, creatinine, complete blood count, urine culture, and renal ultrasound. A more complete list of tests to consider in the clinical evaluation of a child with confirmed hypertension is given in Table3.

Primary hypertension often clusters with other risk factors. All hypertensive children should be screened for co-morbidities that may increase cardiovascular risk, including hyperlipidemia and glucose intolerance. A fasting lipid panel and fasting glucose level should be obtained. Inaddition, a sleep history should be obtained in children with confirmed hypertension to screen for disordered sleep breathing, an entity that is associated with high BP, particularly in overweight children. Left ventricular hypertrophy (LVH) is the most common manifestation of target organ damage in hypertensive children. All children with confirmed hypertension should haveechocardiography to evaluate for the presence of LVH. Left ventricular mass measurements should be indexed to height (m2.7) to account for the effect of body size. The presence of LVH is an indication for pharmacotherapy.

Table 3 Showing relation beteween investigation and significance in the management decision

Laboratory Test	Significance
Urinalysis, urine culture, blood urea nitrogen, creatinine, uric acid	Renal parenchymal disease
Serum electrolytes (hypokalemia)	Hyperaldosteronism (primary or secondary)
	Adrenogenital syndrome
	Renin-producing tumors

ECG, chest X-ray studies, and possibly echocardiography	Cardiac cause of hypertension : also baseline function
Intravenous pyelogram (or ultrasonography, radionuclide studies, computed tomography, or magnetic resonance imaging of the kidneys)	Renal parenchymal disease
	Renovascular hypertension
	Tumors (neuroblastoma, Wilms' tumor)
Plasma renin activity (peripheral)	High-renin hypertension (renovascular hypertension, renin-producing tumors, some Cushing's syndrome, some essential hypertension)
	Low renin hypertension (adrenogenital syndrome primary hyperaldosteronism)
24-hr urine collection for 17-ketosteroid and 17-hydroxycorticosteroids	Cushing's syndrome
	Adrenogenital syndrome
24-hr urine collection for catecholamine levels and vanillylmandelic acid	Pheochromocytoma
	Neuroblastoma
Aldosterone	Hyperaldosteronism (primary or secondary)
	Renovascular hypertension
	Renin-producing tumors
Renal vein plasma renin activity	Unilateral renal parenchymal disease
	Renovascular hypertension
Abdominal aortogram	Renovascular hypertension
	Abdominal coaretation of the aorta Unilateral renal parenchymal disease
	Pheochromocytoma
Intra-arterial digital subtraction angiography	Renovascular hypertension

Management of HYPERTENSION

Role of Non-pharmacologic Therapy

Therapeutic lifestyle changes are currently recommended as the initial approach for children and adolescents with less severe hypertension or those with primary hypertension and no hypertensive target organ disease. For those patients who are overweight, improvement of diet andphysical activity to manage weight may be beneficial.The Dietary Approaches to Stopping Hypertension (DASH) diet is also recommended, even for those who are not overweight.

The DASH pattern of eating emphasizes intake of fruits,vegetables, low-fat dairy, and whole grains and reduces intake of foods high in saturated fat and refined sugar.

Increasing physical activity may also have beneficial effects on BP, particularly for children who are overweight and need to improve their body mass index.Physical activity may have a number of other beneficial effects, such as improvement in vascular function,and should be recommended for children with hypertension. In addition to increasing physical activity, children should have limitations placed on their sedentary time, with 2 hours/day spent on television, computers, video games, and other sedentary pursuits. These measures, with appropriate dietary modifications, should be incorporated into the treatment plan of all children and adolescents with hypertension, even those who require pharmacologic therapy.

Pharmacologic Intervention

Drugs are used when a nonpharmacologic approach has not beenfound to be effective, in part because possible adverse effects of long-term drug therapy on growing children have not been evaluated adequately and because many antihypertensive agents have side effects.

Indications

Although there are no clear guidelines for identifying those who should be treated with antihypertensive drugs, the following are generally considered indications for initiating drug therapy in hypertensive children:

1. Severe symptomatic hypertension, which should be treated with intravenous (IV) antihypertensive medications
2. Significant secondary hypertension, such as that due to renovascular and renoparenchymal diseases
3. Hypertensive target organ damage
4. Family history of early complications of hypertension
5. Diabetes (types 1 and 2)
6. Child who has dyslipidemia and other coronary artery risk factors
7. Persistent hypertension despite nonpharmacologic measures

The most reliable end-organ damage at this time is the presence of left ventricular hypertrophy (LVH) evidenced by echo studies.

Mechanism of Action, Metabolism, and Pharmacokinetic Profile

Most pharmacokinetic data for children has come from adult trials. With the passage of the Food and Drug Administration Modernization Act in 1997, there has been an increase in pharmaceutical-sponsored trials evaluating antihypertensive medications in children. This was reinforced with The Best Pharmaceutical for Children Act passed in 2002 and expanded by the Pediatric Research Equity Act passed in 2003 requiring all applications for new drugs to include pediatric assessment data unless the pharmaceutical company obtained a waiver or deferral.

Angiotensin-Converting enzyme inhibitors and angiotensin receptor blockers :

ACEIs are one of the most commonly used antihypertensive medications in the pediatric population. In general, they have few adverse effects in standard doses and have convenient dosing schedules to improve adherence. This makes them attractive choices forpediatric hypertension especially in adolescents.

Angiotensin-converting enzyme (ACE) facilitatesthe conversion of angiotensin I to angiotensin II andthe degradation of bradykinin. AngiotensinReceptor blockers (ARBs) selectively inhibit the binding of angiotensin II to the angiotensin II type 1receptors.Angiotensin II produces arterial vasoconstrictionand activation of the renin-angiotensin system promotingsalt and water reabsorption in the distal tubulesmediated by aldosterone. Angiotensin II also stimulatesthe sympathetic nervous system and has a directinotropic effect on the heart. Bradykinin produces vasodilatation via prostaglandin-mediated effects on endothelial cells. ACEIs prevent the conversion of angiotensin I to angiotensin II which reduces arterial vasoconstriction and the salt and water retention facilitated by stimulation of aldosterone release by angiotensin II and with reduced degradation of bradykinin, arterial vasodilation. Blood pressure falls gradually untilACE is inhibited by 90% rather than in a dose response effect.Angiotensin II produces vasoconstriction at both the afferent and efferent arterioles with preferential increases at the efferent arteriole; therefore ACEIs increase blood flow to the kidney despite lowering blood pressure.

Calcium channel blockers

Calcium channel blocking antihypertensives inhibit the influx of extracellular calcium into the cellular membrane of the smooth muscle and other contractile cells by blocking the transmembrane transport of calcium. This results in reduced contractility and arteriolar smooth muscle tone in a dose-dependent fashion. Dihydropyridines are the major class of CCBs used to treat essential hypertension in children because of their relative selectivity for arteriolar smooth muscle. These

include amlodipine, isradipine, and nifedipine. The non-dihydropyridines, another class of CCBs that includes verapamil and diltiazem, have greater affinity for cardiac cells thus reducing contractility and altering conduction at the sinus node pacemaker and atrioventricular node respectively

Beta-Blockers

Beta-adrenergic antagonists reduce the effect of endogenous catecholamines on beta-adrenergic

receptors. There are three identified types of receptors designated ?1, ?2, and ?3. ?1-adrenergic receptors are found primarily in the heart and kidney; ?2-adrenergic receptors are located in multiple areas particularly the lung, vascular smooth muscle, and skeletal muscle; and ?3-adrenergic receptors are located in adipose tissue.In general, BBs competitively block ?1-adrenergic receptors and ?2-adrenergic receptors dependent upon the selectivity of the individual

drug.These medications are separated by several characteristics, including cardioselectivity, alpha adrenergic activity, hydrophilic and lipophilic properties and intrinsic sympathomimetic activity.

Diuretics

Diuretics are used primarily as a second medication when adequate blood pressure has not been attained with monotherapy especially in adolescents and in children with renal disease with high volume states. The two types primarily used are thiazide and loop diuretics. Thiazide diuretics exert their effect on the distal tubule in the kidney to decrease sodium and water reabsorption and increase potassium secretion in an ion exchange mechanism by inhibiting the sodium- chloride membrane transporter. With long term use, the thiazides produce vasodilatation.

Although the mechanism of action is not thoroughly understood, it is postulated it may be due to a decrease in interstitial volume, a decrease in intracellular sodium that alters intracellular calcium, or a change in cellular receptors to vasoconstrictor substances. Therefore, initial blood pressure reduction appears to occur due to

a decrease in plasma volume and cardiac output and then occurs due to a reduction in peripheral resistance. Their efficacy is dependent on the glomerular filtration rate (GFR). They are most efficacious when the GFR is50 ml/minute and ineffective when the GFR is 30 ml/minute.Thiazide diuretics produce elevations in blood glucose and insulin levels.

Loop diuretics exert their effect at the ascending limb of the loop of Henle by decreasing the reabsorption of sodium and water by inhibiting the sodium potassium- chloride membrane transporter. They also increase renal blood flow by reducing renovascular resistance. They are more potent than thiazide diuretics but their efficacy also decreases as GFR is reduced. Please see Table for information related to peak level, half life, and excretion.

Table 4 drugs used in pharmacological therapy of hypertension

Table 3. Pharmacologic therapy.

Drug	Peak level	Half Life	Excretion	Dosing schedule
Ace Inhibitors				
Benazepril (prodrug)	2–4 *h* 1–2 *fasting*	5 *h*	*Renal* (11%–12% *biliary*)	*QD*
Captopril		3 *h*	*Urine*	*TID*
Fosinopril (prodrug)	3 *h*	11–13 *h*	*Urine = Bile/Feces*	*QD*
Lisinopril	5–6 *h*	12 *h*	*Urine*	*QD*
Quanapril (prodrug)	1–2 *h*	2 *h* (*elimination*) 25 (*terminal*)	*Bile/Feces* 37% *Urine* 61%	*QD*
Enalapril (prodrug)	3–4 *h*	14*h ages* 12–16 > 16 *h ages* 6– < 12	*Bile/Feces* 33% *Urine* 60%	*QD-BID*
ARBs				
Candesarten (prodrug)	4 *h*	6 *h ages* 1–17	*Bile/Feces* 67% *Urine* 33%	*QD*
Irbesartan	1–2 *h*	11–15 *h*	*Bile/Feces* 80% *Urine* 20%	*QD*
Olmesartan (prodrug)	1.4–2.6 *h*	12–18 *h*	*Bile/Feces* 60% *Urine* 3%–15%	*QD*
Telmisartan	1–1.5 *h*	27–28 *h*	*Bile/Feces*	*QD*
Losartan	1–2 *h*	4–5 *h*	*Bile/Feces* 60% *Urine* 35%	*QD*
Valsartan	2–3 *h*	6 *h*	*Bile/Feces* 83% *Urine* 13%	*QD*
Calcium channel blockers				
Amlodipine	6–12 *h*	36–45 *h*	*Urine*	*QD*
Nifedipine	25–30 *min*	2 *h*	*Urine*	*QD-BID*
Isradipine	1.5 *h*	9 *h*	*Bile/Feces* 25%–30% *Urine* 60–65%	*QD*
Beta blockers				
Propranolol (non-selective)	1–3 *h*	4–6 *h*	*Urine*	*BID-TID*
Atenolol (selective)	2–4 *h*	6–7 *h*	*Urine*	*QD-BID*
Metropolol (selective)		3–7 *h*	*Bile/Feces*	*BID*
Labetalol (selective alpha: non-selective beta)		6–8 *h*	*Bile/Feces* 50% *Urine* 50%	*BID*
Bisoprolol (selective)	3 *h*	7–15 *h*	*Urine*	*QD*
Diuretics				
Hydrochlorothiazide	2–4 *h*	5–15 *h*	*Urine*	*QD*
Furosemide	1–2 *h*	24 *h*	*Bile/Fssseces* 12% *Urine* 88%	*QD*

Choice of initial agent

The choice of the class for the initial agent is often a source of controversy. In adults, studies such as the Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT)have provided evidence that a diuretic or a beta-blocking agent should be the first choice of medication. This evidence base is lacking for pediatric patients.

Some authors have advocated a pathophysiologic approach to the choice of initial agent, at least in adults. One such approach is based on measurement of plasma renin.Patients with high renin levels would be considered to have hypertension from renin-mediated vasoconstriction and should therefore be prescribed an anti-renin agent such as an ACEI, whereas patients with low renin levels would be consideredto have a volume overload type of hypertension and should be prescribed a diuretic. Although this approach has not been studied in children, it might be reasonable to consider, especially because of the higher renin values seen in children with hypertension, particularly in adolescents who are obese.

Compliance is a very important issue in the treatment of hypertension in children and adolescents because most patients have so few symptoms. In adolescents, this is particularly difficult because they often do not like to remember to take their medications and do not like to be perceived as different from their peers. If BP control can be achieved with a single drug that is taken once a day, this will improve the likelihood of compliance with taking the medication and should be taken into consideration when the initial agent is chosen. Adverse effects of the chosen agent should also be considered. Some classes of anti-hypertensive agents, particularly newer ones such as ACEIs and ARBs, have a lower incidence of adverse effectsand may be preferable when compliance is a concern.

Treatment of associated risk factors - Lipid-lowering agents

The new guidelines of the American Academy of Pediatrics (AAP) recommend measuring lipoproteins starting at age 2 in overweight or hypertensive or diabetic

children or in those with a family history of dyslipidemia or early coronary artery disease. If lipid values are within age-specific and gender-specific normal ranges, children should be retested in 3–5 years. For those out of normal ranges, initial treatment should be focused on recommending a diet low in cholesterol (<200 mg/day) and saturated fat (<7% of calories) supplemented with plant sterols and dietary fibers (child's age þ 5 g/day up to 20 g at 15 years of age). Increased physical activitymay be useful for modifying HDL-C and triglycerides.

According to the AAP, statins should be considered for children 8 years and older if any of the following conditions exists: LDL-C remains 190 mg/dl (4.94 mmol/l) or more; LDL-C remains 160 mg/dl (4.16 mmol/l) or more and there is a family history of early coronary artery disease or the presence of other risk factors as obesity, hypertension and smoking; LDL-C remains 130 mg/dl (3.38mmol/l) or more in children with diabetes mellitus.

Glycemic control

Increasing prevalence of pediatric type 2 diabetes coincides with increasing obesity in children. Most obese children have insulin resistance (60%), 5% have impaired glucose tolerance (IGT), 1% impaired fasting glucose and 0.2% type 2 diabetes. Reducing overweight and IGT may help prevent or delay the development of type 2 diabetes in high-risk youths. Metformin is the only oral medication that has been adequately studied in children and approved by the FDA and some European agencies for use in children over 10 years of age with type 2 diabetes. In morbidly obese insulin-resistant children, metformin has been shown to have favorable effects on body composition, fasting insulin and fasting glucose.

Prevention:Lifestyle modifications

Lifestyle changes are recommended for all children with hypertension; interventions based on daily routines are likely to be more successful.

Weight reduction

Achievement of ideal body weight is important, since reduction of weight reduces sensitivity of blood pressure to salt and attenuates cardiovascular risk factors,

e.g., dyslipidemia and insulin resistance. Reduction of BMI by10% is reported to lead to 8-12 mm Hg fall in systemic blood pressure. Weight reduction should be achieved by regular physical activity and diet modification. Prevention of excess weight gain limits future increase in blood pressure.

Increased physical activity

Children are encouraged to be active not only for weight control but for their well being. While they often find defined physical exercises (aerobics, tread mills) boring, they are likely to continue activities incorporated into their routines, *e.g.*, walking or cycling to school, playing with friends outdoors and swimming. The Group supports the recommendations of 30-60 minutes or more of physical activity every day that is developmentally appropriate, enjoyable and involving a variety of activities. Adolescent girls in our country should be specifically targeted, since they spend considerably less time than boys in outdoor sport.

Dietary changes

Direct evidence on the benefits of dietary changes from rigorous, well-controlled trials in children and adolescents is sparse. Accordingly, the effect of diet on blood pressure in children is extrapolated chiefly from studies on adults. Recommendations for daily sodium intake in children range between 1-1.5 g (45-65 mEq sodium, 2.6-3.8 g salt). Dietary sodium restriction is associated with small reductions in blood pressure in children. A 'no added salt diet' is a satisfactory approach to restrict salt intake.

Intake of food products high in sodium (processed and canned foods, items prepared in fast food shops including pizzas, pickles and salted potato chips) should be avoided. Increased potassium intake, through vegetables and fruits, is associated with modest reduction of systolic and diastolic blood pressure in adults with essential hypertension. Potassium intake should however be restricted in children with chronic kidney disease with glomerular filtration rate (GFR) below 30 mL/ min/1.73 m2, adrenal insufficiency, severe heart failure, or those receiving treatment with angiotensin converting enzyme inhibitors (ACEI), non-steroidalanti-inflammmatory agents and potassium sparing diuretics.

Despite suggestions that foods rich in calcium, magnesium, folic acid and fiber are useful in reducing blood pressure, there is limited evidence in this regard. An increased intake of fresh vegetables and fruits, whole grains and non-fat dairy is recommended. These foods are low in sodium and saturated fat and rich in minerals (potassium, calcium, magnesium) and fiber. The Group endorses the dietary recommendations of the IAP Consensus Committee on Obesity. The daily food composition is considered a 'thali', where half (50%) is vegetables, salads and fruits, a quarter (25%) is cereals (rice and/or chapattis), and the remainder is protein based (legumes, milk, egg, animal protein). The intake of fried foods, snacks and sweet dishes should be limited.

Long-term Monitoring of Therapy

Therapy must be monitored closely both for efficacy and for potential adverse effects. BP should be measured in the office every 2 to 4 weeks until good control is achieved. Once control is achieved, then BP measurement every 3 to 4 months is appropriate. Home BP measurement should also be incorporated into the treatment plan, because this may help improve compliance with treatment and achievement of goal BP.

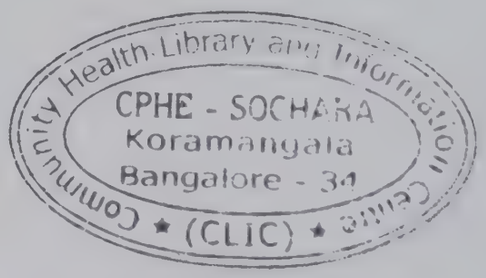
The evaluation of adverse effects of medication will depend on the type of medication being used. Patients and their parents should be advised about any symptoms that may\ be important. Periodic laboratory monitoring may also be required, particularly when a diuretic or agent affecting the renin-angiotensin system is prescribed or when the child or adolescent with hypertension has underlying renal disease as the cause of their hypertension. Female patients of childbearing potential should be counseled about the need to use an effective method of contraception when treatment with an ACEI or ARB is indicated, because exposure to these drugs, even in the first trimester, may have adverse effects on the developing fetus.

References:

1. Update on treatment of pediatric hypertensionJ ClinHypertens (Greenwich). 2012; 14:383–387. _2012 Wiley Periodicals, Inc.
2. Nelson text book of pediatrics 19th edition.
3. Park textbook on pediatric cardiology 2008 edition.
4. Clinical medical insights: circulatory, respiratory, and pulmonary medicine 2012:6 13-25
5. Journal of Hypertension 2009, 27:1719–1742

   Therapy in practice, Pediatric Drugs 2005; 7 (1): 27-40

Should you find yourself in a chronically leaking boat, energy devoted to changing vessels is likely to be more productive than energy devoted in patching leaks - Warren Buffett



ABDOMINAL PAIN - WHEN CAN I INVESTIGATE?

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Abdominal pain - especially chronic and recurrent poses as a diagnostic dilemma for paediatric health care providers specially so because there is considerable variation among children in their perception and tolerance for abdominal pain . a child with functional abdominal pain may be as uncomfortable as one with an organic cause . Many a times , a specific cause may be difficult to find , but the nature and location of pain provoking lesion can be ascertained from the clinical description .

In general , situations that warrant investigation and immediate intervention ,as for an acute abdomen are : age < 5 years , fever , weight loss , bile or blood stained emesis , jaundice , hepatosplenomegaly , back or flank pain or pain in a location away from umbilicus , awakening from sleep in pain , referred pain to shoulder , groin or back , elevated ESR , WBC , or CRP , anaemia , edema , or a strong family history of inflammatory bowel disease or celiac disease .

Shifting (localisation) of pain is a pointer towards diagnosis ; for example , periumbilical pain for a few hours localising to the right lower quadrant suggests Appendicitis. Radiation of Pain can also help the diagnosis , for eg , in biliary colic , the pain is radiated to inferior angle of scapula , pancreatic pain is radiated to the back and the renal colic is radiated to the inguinal region on the same side . On the other hand normal growth and physical examination (including a rectal examination) are reassuring in a child suspected of having functional abdominal pain .

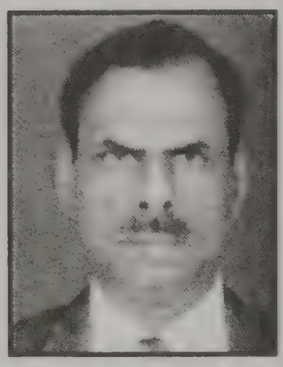
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While it is not an easy task , a careful history , a detailed physical examination , searching for clues about the pain such as location , character , duration , radiation of pain , keeping in mind , the age specific disease affliction and the general condition of the patient , it is possible to act in emergency , wait in non emergency and yet not settle with complacency .

No matter how great the talent or efforts, some things just take time. You can't produce a baby in one month by getting nine women pregnant

- Warren Buffett

LEG PAIN IN CHILDREN- WHEN SHOULD YOU INVESTIGATE



Dr. B. Ravi Chander

Prof. and HOD,
MVJ Medical College, Bangalore

Leg pain in children is a common symptom in Pediatric age groups and may be present in 4 to 37% of children i the targeted age group of 3 to 5 yrs and 8 to 12 yrs. However leg pain could occur in any age group due to innocuous causes like benign limb pain of childhood to more serious causes like malignancy etc. To avoid diagnostic pitfalls as well as avoid overinvestigate a systematic approach to the problem will help in appropriate diagnosis and management

Leg pain in children could manifest as a n acute pain of suddebn onset, a chronic and persiostent pain lasting days or wekks and or rcurrent with symptom free periods between the acute phases. Though the causes of limb pain are multitude, eachof the etiologies has a particular pattern as given in table 1, 2 and 3.

Table 1 Acute pain causes

Trauma- bone, Muscle, Joint
Foriegn body- feet,other part of limb
Infection: localised- bone/ Joint/ muscle, soft tissue,Lymph node, manifestation of systemic disease
Reactive- toxic synovitis
Bleeding disorders
Hematological disorders- sickle cell disease
Osteochondritis

Table 2 Chronic pain causes

Trauma- Repetitive trauma- stress fractures, child abuse
Foriegn body
Infection: Chronic disease- Tuberculosis, syphilis, brucellosis etc
Rheumatological: Jla, other systemic arthritides
Bone tumors - Benign, Malignant
Hematological disorders- Bleeding disorders, Leukemia, lymphomas,Neuroblastoma
Osteochondritis and other skelwetal disordersat various sites
Other othopedic disorders – gait related, Joint and arch abnormalities
Hypermobility syndrome
Overuse syndrome
Amplified musculoskeletal syndromes

Table 3 Recurrent pain

Benign limb pain o f childhood
Reactive arthritis
Rheumatological disease
Hypermobility syndrome
Overuse syndrome
Amplified musculoskeletal syndromes

Table 4 Criteria for benign limb pain of childhood(Based on Naish and Apley)

1. Atleast a 3 month history of pain
2. Intermittent symptoms with pain free interval of days, weeks aor months
3. pain late in day or awakening child at night
4. pain not specifically related to joints
5. pain of signioficant severity to interrupt normal activity as sleep.
6. Normal physical examination, lab data and X rays

It is equally important to elicit if the pain involves only the muscles or only the joints or is a bony pain or involving more than one component. Usually benign causes of pain are very localised and involve muscle component only . One of the commonest entity presenting in childhood is the benign limb pain of childhood which can manifest as a sudden onset pain in the night with history of recurrence . certain diagnostic criteria have been made by Naish and Apley et al for ease of diagnosis as given in table 4.

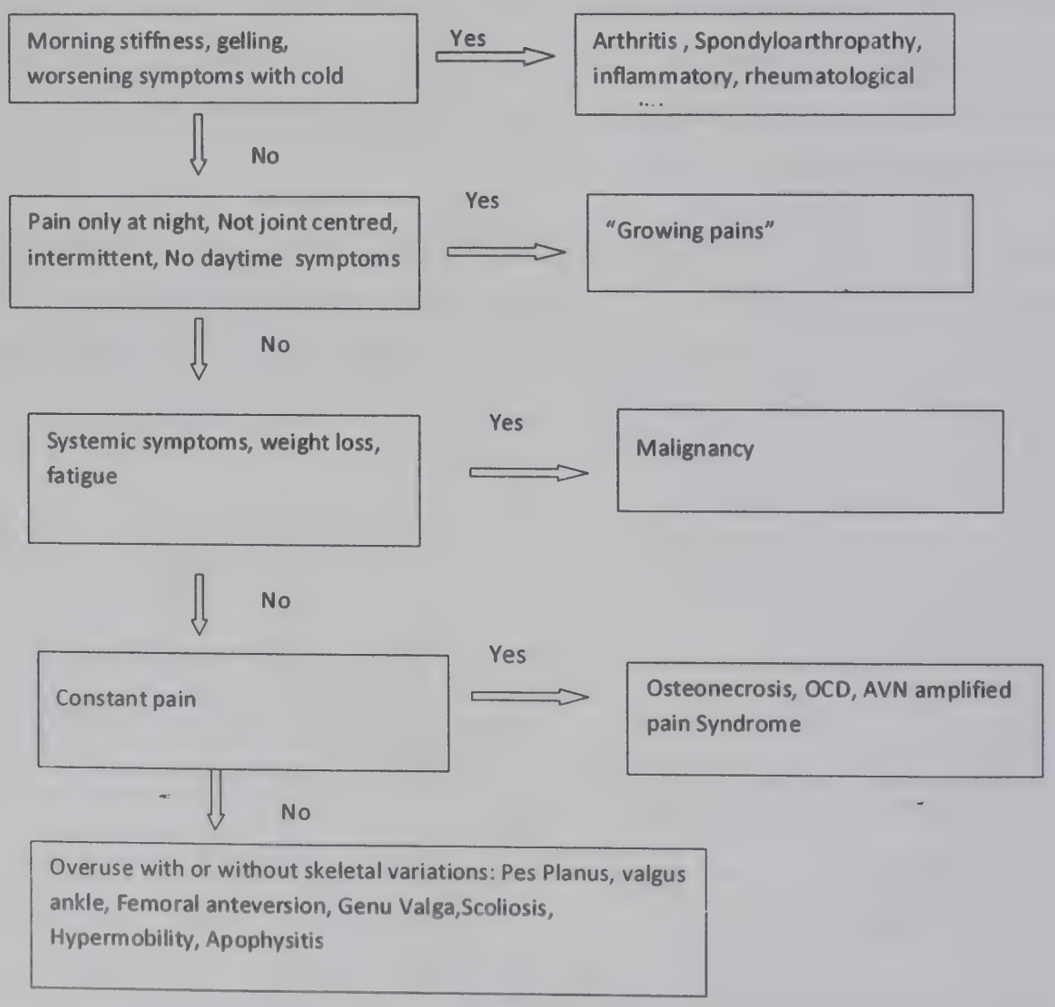
Since the etiology varies from benign conditions to serious conditions requiring tests and prolonged medication a simple clinical approach to distinguish benign conditions from serious conditions is given in Table 5 and algorithm approach is as per Figure 1

Table 5

	Characterstics of Benign condition	Characterstics of serious disorders
1	Shin pain	Joint pain
2	Episodic	constant
3	Pain releived by rest aggravated by activity	Pain relieved by activity but present at rest
4	Pain at end of day	Pain at beginning of day and may be associated with stiffness

5	Nocturnal pain relievd by masage and simpl analgesics	Nocturnal pain not releieved by analgesics, touch may provoke pain
6	No Bony tenderness	Bony tenderness
7	Hypermobile joints	Stif joints
8	No bony/ joint swelling	Bony/ joint swelling
9	Normal muscle strength	Weakness of muscles
10	Normal growth	Poor growth
11	No constitutionaal symptom	Fever/malaise etc
12	Normal acute phase reactants	Increase in CRP/ESR etc
13	Normal radiology	Abnormal radiology- soft tissue/ bone /joints etc.

Figure 1



Where the suspicion of an serious condition is high based on the given clinical features future investigations can be planned. The simple test to look for any serious condition is to do a blood count looking for leucocytosis/ leukopenia and increase in acute phase reactants like CRP/ ESR etc. Radiological investigations will depend on the etiology one is suspecting. Simple plain radiographs of the lower limb would be able to give many of the diagnosis of serious conditions. Though bone scan is a sensitive tool for detecting acute inflammation, it lacks specificity to distinguish inflammation from infection and also the growth areas. Other investigation modalities like MRI/ CT scan will depend on the need to evaluate for more specific anomalies involving the joints/ musclesetc. More specific tests for Rheumatological illness, malignancies and other orthopedic conditions will be based on these preliminary test

References:

1. Peter Weiser.Approach to patient with Non inflammatory musculoskeletal pain. Pediatr clin n Am 59(2012)471-492
2. Jennifer I. Junnila,Victoria W. Cartwright Chronic Musculoskeletal Pain in Children:

   Part I. Initial Evaluation, Am J Of Fam Physician,Volume 74, Number 2 p 293-299

Someone is sitting in the shade today because someone planted a tree a long time ago - Warren Buffett

Wheezing infant :- When can I call it as Asthma?

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Childhood Wheezing

- The landmark studies of **Martinez and colleagues** clearly demonstrate that many children who wheeze in early childhood have only **transient episodes** (during acute respiratory infections) and do *not* go on to develop asthma.
- Studies have clinically adage **"All that wheezes is not Asthma"**
- Since young children are estimated to experience **six to ten** acute respiratory infections per year, clinicians (and researchers) might anticipate that attentive parents are likely to report **recurrent wheezing** in most children, and that this could be misdiagnosed as asthma.

Asthma - Definition

- In 1987 definition from the **American Thoracic Society** (ATS) – i.e. asthma is a chronic lung disease characterized by: (1) **airway narrowing that is reversible** (though not always completely), either spontaneously or with treatment; (2) **airway inflammation**; and (3) **bronchial hyper-responsiveness** (BHR) to a variety of stimuli.
- "Do you have doctor-diagnosed asthma?"
- **Childhood atopy** is one of the strongest risk factors for asthma
- **Term "asthma"** is likely a ***syndrome*** composed of heterogeneous diseases.

The Diagnosis of Asthma is Clinical (2012!)



"The diagnosis of asthma is a clinical one; there is no standardised definition of the type, severity or frequency of symptoms, nor of the findings on investigation. The absence of a gold standard definition means that it is not possible to make clear evidence based recommendations on how to make a diagnosis of asthma."

Patterns of wheeze

- **Tucson Children's respiratory study identifies 3 groups:**
  - Those who wheezed before the age of 3 yrs, but not after (**TEW – Transient episodic wheeze**)
  - Those who wheezed only after 3 yrs (**LOW – Late onset wheeze**)
  - Those who wheezed before and after the age of 3 yrs (**P / – Persistent wheeze**)

Patterns of wheeze - clinical

- **Two general patterns of wheezing:**
  - **Infants who have recurrent wheezing precipitated by viral infection**
  - **Infants with atopic familial background have atopy themselves like eczema and have symptoms without URI.**
- **5-15% who wheezed develop asthma in later life**

When can you diagnose asthma?

- 10 month old male. Born at term; Breast fed
- Eczema from 3 months of age.
- Symptoms suggestive of food allergy when formula introduced at 6 months.
- Recurrent cough esp. at night. Wheezing clearly heard by GP at 8months. Symptoms worse with colds but also with laughing and and getting excited.
- Mother has asthma & eczema. 2 other children with asthma; father hay fever. Maternal grandmother died of asthma at 58

Nasopharyngeal bacterial colonization during first wheezing episode is associated with longer duration of hospitalization and higher risk of relapse in young children

T. Jartti et al
Eur J Clin Microbiol Infect Dis (2011), Turku University , Finland.

Abstract:-

- Observational study – 12mo
- Children younger than 3yrs old, 1st episode of wheeze – n = 293
- Relapses within 2mo
- 60% bacterial culture was positive - (*streptococcus pneumoniae,H Influnzae,Moraxella catarrhalis,& Chlamydia pneumonia)*

- **Nasopharyngeal bacterial colonization can serve as a new and early marker for those at an increased risk for a relapse**

Is Infection important in the pathogenesis and clinical expression of asthma?

E R Sutherland & R J Martin

- Viral Infection causes airway inflammation and obstruction - (42%) -10yrs later.- Pullan & Hey - 1982
- > than 6 Antibiotics courses - in first 3yrs of life –had decreased pulmonary function in later childhood – von Mutius & colleagues -1999
- Mycoplasma pneumonia and asthma (18 %) Gil et al
- Chlamydia pneumonia and asthma (32%) – Kraft et al
- Fungal infection and asthma – Aspergillus fumigatus - allergic bronchopulmonary mycosis (ABPM)

Conclusion :

- **Infection is an important acquired factor in the pathogenesis and clinical expression of asthma**

Pathophysiology

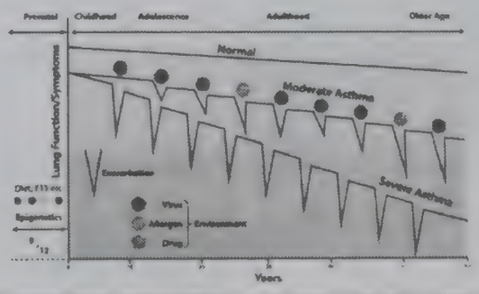


FIG 3. Proposed sequence of pathophysiological events underpinning the life course of asthma in its various phenotypic manifestations with associated functional effects and responses to current therapies. *ETS* Environmental tobacco smoke.

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A clinical index of asthma risk[24]

Major criteria	Minor criteria
Parental asthma (history of physician diagnosis of asthma in a parent)	Allergic rhinitis (physician diagnosis of allergic rhinitis as reported in questionnaires at ages 2 or 3 y)
Eczema (physician diagnosis of atopic dermatitis as reported in questionnaires at ages 2 or 3 y)	Wheezing apart from colds
	Eosinophilia (≥4%)

[24]Stringent index for predicting asthma: Child has early, frequent wheezing plus at least 1 of the 2 major criteria or 2 of the 3 minor criteria.
Loose index for predicting asthma: Child has early wheezing plus at least 1 of the 2 major criteria or 2 of the 3 minor criteria.

Likelihood of active asthma predicted by stringent index*

Active asthma	OR (95% CI)	Sensitivity, % (95% CI)	Specificity, % (95% CI)	PPV, % (95% CI)	NPV, % (95% CI)
At 6 y	9.8 (5.6-17.2)	27.5 (24.6-30.4)	96.3 (95.1-97.5)	47.5 (44.3-50.7)	91.6 (89.8-93.4)
At 8 y	5.8 (2.9-11.2)	14.3 (13.7-16.9)	98.7 (95.6-88.0)	63.6 (48.1-47.1)	88.2 (85.9-90.5)
At 11 y	4.3 (2.6-7.0)	15 (12.6-17.4)	96.1 (94.8-97.4)	42.0 (38.7-45.3)	85.6 (83.3-87.9)
At 13 y	5.1 (3.1-8.4)	14.8 (12.1-17.5)	97.0 (95.7-98.3)	51.5 (47.7-55.3)	84.2 (81.4-87.0)

OR, odds ratio; NPV, negative predictive value; OR, odds ratio; PPV, positive predictive value.

Likelihood of active asthma predicted by loose index*

Active asthma	OR (95% CI)	Sensitivity, % (95% CI)	Specificity, % (95% CI)	PPV, % (95% CI)	NPV, % (95% CI)
At 6 y	5.5 (3.5-8.6)	56.6 (53.3-59.9)	89.8 (78.3-83.3)	26.2 (23.6-29.0)	93.9 (92.4-95.4)
At 8 y	4.4 (2.3-8.4)	56.6 (53.3-59.9)	81.3 (79.1-83.5)	20.4 (26.2-32.6)	91.2 (89.3-93.2)
At 11 y	2.8 (1.5-5.0)	40.1 (36.8-43.4)	85.4 (83.4-87.3)	20.1 (24.1-30.5)	89.5 (87.5-91.5)
At 13 y	3.0 (1.9-4.8)	39.3 (35.5-43.1)	82.1 (79.1-85.1)	21.7 (28.1-35.3)	88.5 (86.0-91.1)

Questions to distinguish the Etiology of Wheezing in Infants

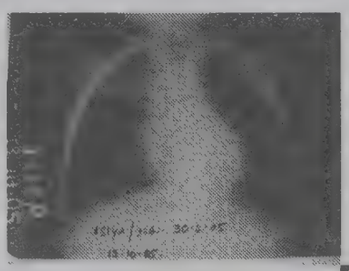
QUESTION	*INDICATIONS*
• How old was the patient when the wheezing started?	Distinguishes congenital from noncongenital causes
• Did the wheezing start suddenly?	Foreign body aspiration
• Is there a pattern to the wheezing?	Episodic asthma
	Persistent congenital or genetic cause
• Is the wheezing associated with a cough?	GERD, sleep apnea, asthma, allergies
• Is the wheezing associated with feeding?	GERD
• Is the wheezing associated with multiple respiratory illnesses?	Cystic fibrosis, immunodeficiency
• Is the wheezing associated with a specific season?	Allergies
	Croup
	Human bocavirus
	Human metapneumovirus
	RSV
• Does the wheezing get better or worse when the patient changes position?	Tracheomalacia, anomalies of the great vessels
• Is there a family history of wheezing?	Infectious, Allergic triad

Differential Diagnosis of Wheezing According to Characteristic Signs and Symptoms

SIGNS AND SYMPTOMS	*PRESUMPTIVE DIAGNOSIS*	*FURTHER EVALUATION*
• Associated with feeding, cough, and vomiting	Gastroesophageal reflux disease	24-hour pH monitoring, Barium swallow
• Associated with positional changes	Tracheomalacia; anomalies of the great vessels	Angiography Bronchoscopy CT Chest radiography or MRI Echocardiography
• Auscultatory crackles, fever	Pneumonia	Chest radiography
• Episodic pattern, cough, Patient responds to bronchodilators	Asthma	Allergy testing Pulmonary function Trial of bronchodilators

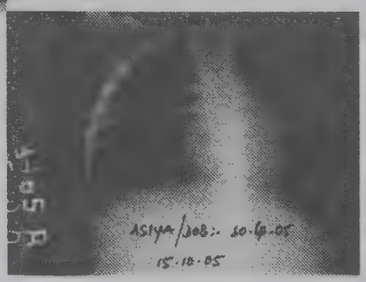
Differential Diagnosis of Wheezing According to Characteristic Signs and Symptoms

SIGNS AND SYMPTOMS	*PRESUMPTIVE DIAGNOSIS*	*FURTHER EVALUATION*
• Exacerbated by neck flexion; relieved by neck hyperextension	Vascular ring	Angiography Barium swallow Bronchoscopy Chest radiography CT or MRI
• Heart murmurs or cardiomegaly, cyanosis without respiratory distress	Cardiac disease	Angiography Chest radiography Echocardiography
• History of multiple respiratory illnesses; failure to thrive	Cystic fibrosis or immunodeficiency	Ciliary function testing Immunoglobulin levels Sweat chloride testing
• Seasonal pattern, nasal flaring, intercostal retractions	Bronchiolitis (RSV), croup, allergies	Chest radiography
• Stridor with drooling	Epiglottitis	Neck radiography
• Sudden onset of wheezing and choking	Foreign body aspiration	Bronchoscopy



6 months

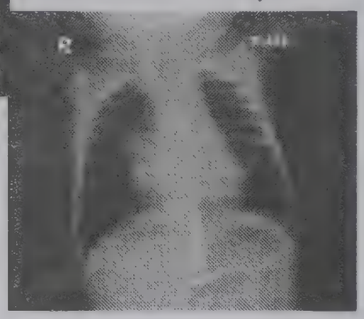
Fever/wheeze – 2 days





6 months

Sudden onset of cough with wheeze – 2 days





2 yrs

Inspiratory wheeze since birth

Conclusion

- No reliable way exists to diagnose asthma in Infants and Toddlers

- Recurrent wheezing, especially apart from colds, combined with physician diagnosed eczema or atopic dermatitis, and parental history of asthma, increase the probability of subsequent asthma diagnosis in absence of other causes.

(strength of recommendation : B, & good quality cohort studies)

OBESITY MANAGEMENT : DIET V/s MEDICINE

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The enormous increase in the prevalence of childhood obesity in recent times is indeed alarming. Very often, the parents and close relatives are also found obese. There may be many reasons for this but this unhealthy trend is causing many hazardous complications in the affected children at a very young age. Dyslipidaemia, hypertension, impaired glucose tolerance, type 2 diabetes mellitus (T2DM) and even vascular strokes have been observed in school age children, even as young as 5 years. In nearly all cases, it is clear that the primary problem is overeating and all these undesirable but avoidable outcomes should be amenable to changes in lifestyle and food habits. Strict adherence to a disciplined weight reducing regime and maintenance of healthy habits requires strong motivation, which is found lacking in most patients and their family members. It should be emphasized here that the treatment of childhood obesity is a family business and unless the adults also follow the advice on weight reduction and set an example to their children, it will not be possible to succeed with weight reduction in children. Mere good advice and no medicine are not always easily acceptable and do not gain the confidence of parents. It is the experience of all concerned that compliance to follow suitable advice is a major problem in obesity management, especially when no drug treatment is prescribed.

Several drugs are available in the market, with tall claims of "miraculous" weight reduction. Many are new drugs where collective experience is not enough or convincing to recommend largescale use. Suffice it to say, the claims are too

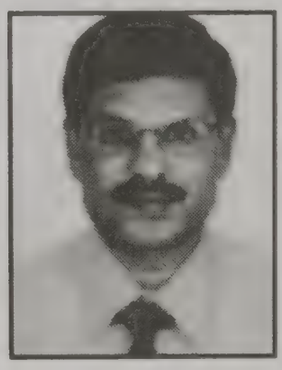
good to be true and these drugs are known to induce many side effects. In the search for a safe drug with scientifically proven beneficial effects, metformin was found suitable. Studies and meta analyses are now available in the literature reporting the usefulness of this time tested drug. However, it should not be routinely prescribed without appropriate investigations. Besides thyroid function tests, fasting lipid profile, calcium profile, renal and liver function tests, an oral glucose tolerance test with measurement of insulin should be carried out to determine presence of hyperinsulinaemia and insulin resistance. Metformin is useful only when insulin resistance is demonstrated. It goes without saying that metformin alone will not help obese children to reduce weight. Other important measures such as a low fat, low calorie weight reducing meal plan and regular physical exercises on a daily basis, avoidance of sedentary habits, reduction of TV viewing will also need to be followed religiously with co-operation from other family members.

Metformin is an ancient drug used primarily for T2DM with potentially beneficial new uses including childhood obesity and insulin resistance. The Metformin in Obese Children and Adolescents (MOCA) trial is the largest double-blind, randomized, placebo-controlled trial of metformin in obese nondiabetic children and young people (J Clin Endo Metab, 98: 322-329; 2013). The MOCA trial provides evidence that a short treatment course of metformin is clinically useful, safe, and well tolerated to halt further gain in adiposity and improve fasting glucose, SGOT, and adiponectin:leptin ratio. Metformin may also provide a stimulus for further lifestyle changes and is a useful adjunct to support lifestyle modification and potentially reduce long term risk of dyslipidaemia, cardiovascular disease and T2DM. Addition of a drug such as metformin certainly helps to achieve better weight reduction and restoration of health in motivated individuals.

HEART MURMURS DOES IT NEED INTERVENTION?

Dr. Prahalad Kumar A.

Professor of Pediatrics,
Indiragandhi Institute of Child Health,
Bangalore



What is a murmur?

Sound created by the turbulence of the blood flow through the heart valves/ Blood vessels. Heart murmurs are common in children.

Although most are not pathologic, a murmur may be the sole manifestation of serious heart disease.

What are the two types of murmurs?

Physiological/ innocent

Pathological

What is a Still's murmur? Innocent murmur?

Still's murmur, the most common innocent heart murmur. Caused by *turbulence of the blood flow through the heart or blood vessels.*

There are no structural defects associated with this murmur.

They are among the most common reasons for referral to a pediatric cardiologist.

The common Physiological murmurs & their characteristics are as below:

Type	Location	Sound	Maneuvers
Still's murmur	Hockey stick distribution (apex, LLSB, LMSB, RUSB)	Vibratory, buzzing, "cooing systolic murmur(ESM)	sit up or stand up: murmur reduces/disappear/ localize to LLSB
Venous hum	RUSB, LUSB	Blowing, roaring, continuous murmur	On compression of jugular vein, or turn head: murmur disappear
Physiologic peripheral pulmonary stenosis	Parasternal, precordium, axillae, back	Short, soft systolic murmur	does not change with position, should be gone by 6 months of age

What are pathologic murmurs?

- ***If the Child is Symptomatic***
- ***holosystolic grade 3 or higher murmur***
- ***Diastolic murmur,***
- ***Maximal intensity at the Lower left sternal border,***
- ***an abnormal S_2***
- ***a systolic click***
- ***congestive heart failure***
- ***Cyanosis***
- ***Abnormal radiological findings,***
- ***Abnormal ECG***

If one or more of the above features are there one has to evaluate further and treated accordingly.

SNORING IN CHILDREN - CAN WE IGNORE?

Dr. Ilin Kinimi

Consultant, Pediatric Pulmonology
and Sleep Medicine,
Manipal Hospital, Bangalore



Pediatric sleep disordered breathing (PSDB) refers to the clinical spectrum of repetitive episodes of complete or partial obstruction of the airway during sleep.

- Primary Snoring (PS) - Snoring without obstructive apnea, frequent arousals from sleep, or gas exchange abnormalities.
- Obstructive Hypoventilation Syndrome (OHS) - Persistent partial upper airway obstruction associated with gas exchange abnormalities, rather than discrete, cyclic apneas.
- Upper Airway Resistance Syndrome (UARS) -Increasingly negative intrathoracic pressures during inspiration that lead to arousals and sleep fragmentation.
- Obstructive sleep apnea (OSA) -prolonged partial upper airway obstruction and/or intermittent complete obstruction which disrupts normal ventilation & normal sleep patterns.

Obstructive sleep apnea syndrome (OSA) is a common condition in children affecting up to 2–4% of all children with a peak incidence between 1 and 8 years of age[1]. It is now clear that no single causative factor can be ascribed as solely responsible for the occurrence of OSA.More specifically, interactions between craniofacial and anatomical factors, lymphoid tissue growth patterns, upper airway inflammation, and neuromuscular reflexes appear to underlie the emergence

of OSA. Taken together, these elements lead to a pharyngeal airway of reduced dimensions that also exhibits an increased collapsibility, particularly during sleep. Indeed, awake children with OSA demonstrate the ability to compensate against the collapsible forces, primarily through recruitment of upper air-way dilator muscles that maintain airway patency, and upper airway constrictors that enable increased upper airway rigidity[2]. Upon sleep onset, these compensatory mechanisms are dampened, and the underlying upper airway collapsibility becomes manifest,leading to CO2retention, lowered PaO2,and increasing respiratory effort, all of which are resolved upon the occurrence of cortical or sub-cortical arousals, the latter promoting sleep fragmentation and non-restorative sleep. In summary, the integrated interactive presence of varying degrees of nasal flow resistance, craniofacial characteristics, altered tissue size or mechanical properties, and neuromuscular deficits are critical components of the equation that will resolve the level of OSA risk for any given child. In the last 3 decades, an ever growing number of studies have revealed significant associations between PSDB and multiple end-organ morbidities, primarily affecting CNS, cardiovascular and metabolic systems [3]. A cardinal observation pertaining to any of these associations is the irrefutable fact that at any given level of PSDB severity, there is a fraction that manifests no evidence of morbidity. Conversely even in the presence of extremely mild PSDB, there is a subset of chil-dren that exhibits prominent morbidity. Assesment for OSA includes a good history and physical examination, audio/visual tape recording and nap studies. However, the gold standard remains – an overnight sleep Polysomnography [4].This allows to assess severity of SDB and includes EEG, EKG, EOG, EMG, saturation monitor, respiratory effort and airflow monitors. There are various interventions to decrease the OSA .The most commonly studied assosciation is Adenotonsillar hypertrophy. Benefits of Tonsillar & Adenoidectomy have been reported in several studies.[5]

In Summary, Pediatric OSA is becoming an increasingly significant disorder. Pre-op screening cost-efficacy needs to be assessed. Adenotonsillectomy is effective in treating some cases of pediatric OSA. Algorithms for treating patients with

severe OSA and special patient populations are still being optimized.

References

1. Kaditis, A.G., 2012. Epidemiologic aspects of pediatric OSA around the world. Kheirandish-Gozal, L., Gozal, D. (Eds.), Clinical Guide to Pediatric Sleep Medicine.Humana Press, Springer New York, pp. 279–290.
2. Arens, R., Marcus, C.L., 2004. Pathophysiology of upper airway obstruction: a devel-opmental perspective. Sleep 27, 997–1019.
3. Gozal, D, Kheirandish-Gozal, L., 2012. Childhood obesity and sleep: relatives, part-ners, or both?—a critical perspective on the evidence. Annals of the New York Academy of Sciences 1264, 135–141.
4. Standards and indications for cardiopulmonary sleep studies in children. American Thoracic Society. *Am J Respir Crit Care Med*. 1996; 153(2):866-78.
5. Stewart MG, Glaze DG, Friedman EM, Smith EO, Bautista M. Quality of life and sleep study findings after adenotonsillectomy in children with obstructive sleep apnea. *Arch Otolaryngol Head Neck Surg*. 2005;131(4):308-14.

Risk comes from not knowing what you're doing

- Warren Buffett

DIAGNOSTIC AND THERAPEUTIC DILEMMAS IN PEDIATRIC LEUKEMIAS : CHEMOTHERAPY V/S. BONE MARROW TRANSPLANT



Dr. Intezar Mehdi

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Abstract :

Cancer in children is not uncommon. It is estimated that about 38-124 per million children are diagnosed with cancer each year in India. Under diagnosis and under reporting is a concern. Leukemias are the commonest cancer in children accounting for about 1/3rd of all Pediatric cancers. ALL (Acute Lymphoblastic Leukemia) is the commonest – about 75% of all Pediatric Leukemias. Usually Children with ALL present with Fever, Bleeding, Lethargy, Pallor, Lymphadenopathy, hepatosplenomegaly or bone pains. Diagnosis is usually suspected on Complete blood count with a peripheral smear. Bone marrow is required for confirmation of diagnosis and further risk stratification. ALL may mimic common childhood illness like ITP (Immune thrombocytopenic Purpura), IMN (Infectious Mononucleosis) or JIA (Juvenile Idiopathic Arthritis) or other malignancies like Neuroblastoma or Retinoblastoma. A high index of suspicion is required when presentation is unusual.

Standard treatment for Leukemias in general (ALL, AML) is Chemotherapy. It is curative in 80-90% of children with ALL and 50-60 % of AML patients. Small subset of children, like those with high risk disease, failed response and relapse of the disease require treatment with Allogeneic bone marrow transplantation (Hematopoetic Stem Cell Transplant).

CHEST PAIN IN CHILDREN - HOW SIGNIFICANT?

Dr Sylvan John Rego

Professor and Head, Department of Paediatrics
St John`s Medical College
& Hospital, Bangalore



Children frequently present to a paediatric office or emergency department (ED) with the complaint of chest pain. No specific data from India on incidence and causes of chest pain in children is available. In North America, between 0.3% and 0.6% of visits to a paediatric ED are for chest pain. In the majority of cases the aetiology of the chest pain is benign, but in one third of the cases the symptom is distressing enough to cause children to miss school. The complaint of chest pain should be treated seriously, because underlying heart disease or other serious pathology can exist. There are numerous causes for paediatric chest pain.In general, the most frequently reported cause is musculoskeletal pain followed by respiratory causes.

Differential diagnosis of chest pain in children

Cardiac related causes

Coronary artery disease

- Anomalous coronary arteries
- Kawasaki disease
- Premature atherosclerosis

Arrhythmias

- Supraventricular tachycardia
- Ventricular tachycardia

Structural abnormalities of the heart

- Hypertrophic cardiomyopathy
- Severe pulmonic stenosis
- Aortic valve stenosis

Pericarditis

Myocarditis

Non cardiac related causes

Musculoskeletal disorders

- Chest wall strain (exercise, overuse injury, forceful coughing)
- Trauma (contusion/rib fracture)
- Costochondritis (tietze syndrome)

Respiratory disorders

- Pneumonia
- Pneumothorax/pneumomediastinum
- Pulmonary embolism
- Asthma

Psychological disorders

- Stress related pain

Gastrointestinal disorders

- Esophagitis (gasrtroesophageal reflux disease, pill induced esophagitis)
- Esophageal foreign body

Miscellaneous disorders

- Abdominal aortic aneurysm (marfan syndrome)
- Pleurodynia (coxsackie virus)

- Sickle cell disease
- Shingles
- Chest tumor
- Breast tenderness

Idiopathic

Approach to a child with chest pain

The clinician's primary aim in evaluating the chest pain is to identify serious causes and rule out organic pathology.

- Assess vital signsand general appearance of patients to determine if immediate treatment is needed
- Do not immediately assume paediatric chest pain is cardiac in nature

Most children with chest pain do not need immediate management. Take a thorough history and perform a careful physical examination

History

- Consider thoracic trauma if patients recall a specific incident
- Consider stress or emotional upset as the cause of pain, if an important life event is temporally related.
- Consider esophageal foreign body in a young toddler with acute onset of chest pain.
- Consider pneumonia or viral myocarditis if the child has fever
- Consider cardiac disease if the pain is associated with exertion, syncope and dizziness
- Consider serious associated conditions such as asthma, lupus, sickle cell disease and marfan's syndrome

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Physical examination of the chest

- Inspect for signs of trauma, asymmetry and an abnormal breathing pattern
- Palpate for tenderness and subcutaneous emphysema
- Auscultate for tachycardia, arrhythmia, murmur, rub, rales and wheezing

Symptoms and signs that prompt further work up

Work Up	Symptom	Sign
Chest radiograph	Fever	Fever
	Cough	Tachypnea, rales
	Shortness of breath	Ill appearing/ sick
	History of trauma	Significant trauma
	Pain wakes from sleep	Extreme tachycardia
	Associated with exercise	Absent/decreased breath sounds
	Acute onset of pain	Palpation of subcutaneous air
	Foreign body ingestion	Drooling, gagging
ECG	Associated with exercise	Pathologic auscultation of heart
	Associated with syncope	Tachycardia (>180 bpm)
	Consider with fever	Consider with fever

Conclusion

Chest pain is a common complaint among children of all ages. It is rarely caused by cardiac disease, but it is important to evaluate for this with a thoughtful history and careful physical examination. Perform laboratory tests in limited cases. Obtain studies (Chest radiograph and ECG) if the pain is acute in onset, interferes with sleep, is precipitated by exercise, or associated with dizziness, palpitations, syncope or shortness of breath. Study pain further if children have a history of foreign body ingestion, trauma, or conditions that put them at risk for developing cardiac pathology. Use caution for those with a history of asthma, Marfan Syndrome or Sickle Cell Disease. Obtain chest radiographs and an ECG for those with abnormal physical examination (fever, respiratory distress, abnormal breath sounds, cardiac murmur, abnormal rhythm or heart sounds, palpable subcutaneous air or obvious trauma)Reassure and carefully follow children with chest pain who lack a worrisome history, appear well and have a normal physical examination.

The business schools reward difficult complex behaviour more than simple behaviour but simple behaviour is more effective

- Warren Buffett

SUMMARY OF INTERNATIONAL CONSENSUS ON (ICON) PEDIATRIC ASTHMA - 2013

H. Paramesh

MD, FAAP (USA), FIAP,FIAMS, FIAA, FCAAI



- National Chairman Allergy and Applied Immunology Chapter of IAP
- Director Pulmonologist and Environmentalist. Lakeside Hospital Bangalore - 42
- Member International Consensus on (ICON) Pediatric Asthma

Introduction

There are many guidelines, consensus documents in the world but they vary in the scope, methodology, focus and they are not exclusively for Pediatric asthma. As all are aware that the pediatric asthma presents many challenges to the clinicians which are not seen in adults.

To address these issues on pediatric asthma, the International collaboration of asthma allergy and immunology (ICALL), was formed under European academy of allergy asthma clinical immunology (EAACI),American academy allergy asthma immunology (AAAAI), American college allergy asthma immunology (ACAAI), and World allergy organisation (WAO) to critically review the approved exisisting guidelines globally. The ICALL selected 68 experts globally from 20 countries to compile the data and review critically while accepting the contribution from the selected experts from various countries.

Issues highlighted

- Chronic airways inflammation is the central pathology.
- Airway remodeling can be considered in the definition of pediatric asthma
- Control of asthma is more important for clinician than grading. However in the first evaluation, asthma can be graded as mild, moderate, severe.
- Phenotypes like viral induced asthma, exercise induced asthma, allergic asthma and unresolved asthma are favored for practical purpose
- Asthma is a Chronic inflammatory disease, airway remodeling is a known entity
- The unmet needs are – the mechanism, phenotypes/endotypes needs to be better characterized.
- Aims at primary prevention and targets at early life and or pregency
- Asthma predictive index is not practical for developing countries.
- There is variability of pediatric asthma in infants, preschoolers, schoolers and adolescents
- Diagnosis is still on clinical basis with supportive test like PFT, PEF, IgE and specific IgE, etc can be used.
- Therapeutic trial of bronchodilators and steroids in younger children is recommended
- While managing asthma please stress on education of parents, other health care providers, grand parents, stress according to socio – cultural level of patient's families
- Focus on economic front in the management
- Immunotherapy has a definite role in the management. It is the only way to disease modification and preventing allergic march.

- SLIT is the most preferred child friendly home dosing therapy
- Pharmacotherapy is most liberal in usage of preventers and steroid dose is 50% less than GINA guidelines
- Monitoring of asthma is the same as GINA guidelines except complete control stage is added.
- Encourages dissemination of the knowledge on asthma and improve the guidelines with evidences as and when necessary
- Please adopt the guidelines for the local needs
- Here is the list of the contributors

Allergy EUROPEAN JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY EAACI

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POSITION PAPER

International consensus on (ICON) pediatric asthma

N. G. Papadopoulos[1], H. Arakawa[2], K.-H. Carlsen[3], A. Custovic[4], J. Gern[5], R. Lemanske[6], P. Le Souef[7], M. Mäkelä[8], G. Roberts[9], G. Wong[10], H. Zar[11], C. A. Akdis[12], L. B. Bacharier[13], E. Baraldi[14], H. P. van Bever[15], J. de Blic[16], A. Boner[17], W. Burks[18], T. B. Casale[19], J. A. Castro-Rodriguez[20], Y. Z. Chen[21], Y. M. El-Gamal[22], M. L. Everard[23], T. Frischer[24], M. Geller[25], J. Gereda[26], D. Y. Goh[27], T. W. Guilbert[28], G. Hedlin[29], P. W. Heymann[30], S. J. Hong[31], E. M. Hossny[32], J. L. Huang[33], D. J. Jackson[34], J. C. de Jongste[35], O. Kalayci[36], N. Aït-Khaled[37], S. Kling[38], P. Kuna[39], S. Lau[40], D. K. Ledford[41], S. I. Lee[42], A. H. Liu[43], R. F. Lockey[44], K. Lødrup-Carlsen[45], J. Lötvall[46], A. Morikawa[47], A. Nieto[48], H. Paramesh[49], R. Pawankar[50], P. Pohunek[51], J. Pongracic[52], D. Price[53], C. Robertson[54], N. Rosario[55], L. J. Rossenwasser[56], P. D. Sly[57], R. Stein[58], S. Stick[59], S. Szefler[60], L. M. Taussig[61], E. Valovirta[62], P. Vichyanond[63], D. Wallace[64], E. Weinberg[65], G. Wennergren[66], J. Wildhaber[67] & R. S. Zeiger[68]

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30th Annual CME, Lakeside Education Trust

Mitigation of Non-Communicable Diseases in Children - Measures for Practitioners

29th July 2012



Inauguration of the CME
L-R : Prof. Elizabeth C. Paramesh,
Prof. Giovannini (Italy),
Dr. Kishore Baindur, Dr. P. Suresh Babu,
Mr. Rajendra Hinduja,
Prof. Maj. Dr. Nagaraju, Dr. Appaji,
Dr. K.S. Sriprakash, Dr. H. Paramesh



Release of Souvenir by
Dr. P. Suresh Babu
L-R : Prof. Elizabeth C. Paramesh,
Prof. Giovannini (Italy),
Dr. H. Paramesh, Mr. Rajendra Hinduja,
Dr. K.S. Sriprakash, Dr. Appaji,
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Dr. Kishore Baindur



Dr. H. Paramesh felicitating
Dr. L. Appaji in recognition of his
dedicated services in the field of
Pediatric Oncology

Dr. Roshan C. Paramesh
welcoming the awardee Dr. L. Appaji



(Dr.) Rashmi C. Paramesh
felicitating guest of honour
Mr. Rajendra Hinduja



Chief Guest Dr. K.S. Sriprakash
Vice Chancellor,
Rajiv Gandhi University of
Health Sciences,
delivering the inaugural address





Guest of honour Mr. Rajendra Hinduja addressing the delegates



A section of the delegate audience in rapt attention



Prof. A.T.K. Rao delivering the 16th Dr. O. Ganesh Memorial Oration on Leukaemia - Causes and Preventive Strategies

Dr. Gnanamurthy & Dr. Somasekhar felicitating Prof. Marcello Giovannini after his lecture on 'Dietary Treatment of PKU : Metabolic and Nutritional Implications'



Dr. Subba Rao felicitating Prof. Maj. Dr. Nagaraju after his lecture on 'Preventive Strategies in Respiratory Allergies'



Dr. H. Paramesh honouring Prof. Sanjeev Rai for chairing the session on Safety of Health Care Facilities and Avoidance of Errors in ICU Care



Dr. Govindarajulu, Dr. Vasudev Dhananjay and Dr. Venkatachalapathy chairing the session VII – Childhood Diabetes, Rheumatic Diseases and Maternal Nutrition



Faculty Banquet in the evening of the 30th Annual CME at Hotel Atria, Bangalore



Mr. R. Krishnappa
Former Minister for Adult Education and Libraries, Govt. of Karnataka being welcomed by Dr. H. Paramesh



Mr. Pujar IPS, arriving for the faculty banquet seen with Dr. H. Paramesh



Mrs. & Dr. Ramdev President, PHANA and Dr. Aravind Gubbi Vice-President, PHANA at the faculty banquet

Dr. Aravind Gubbi, Vice-President, PHANA and Prof. Marcello Giovannini seen with Dr. H. Paramesh



Dr. T. Rajeshwari (center) Former Dean, Bangalore Medical College, currently Consultant - Quality Assurance, Director - Accreditation, Rajiv Gandhi University of Health Sciences, Bangalore seen with family



Dr. K.S. Nagesh, Director, Department of Public Health RGUHS, Bangalore, seen with Dr. Roshan C. Paramesh



Mrs. & Dr. Vasudev Dhananjay, Dr. Prahalad Kumar, Dr. Christie Savio and Dr. Santosh Soans at the faculty banquet





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Mr. Subbarama Setty, Dr. H. Paramesh, Surendra Kumar, Dinesh Hinduja



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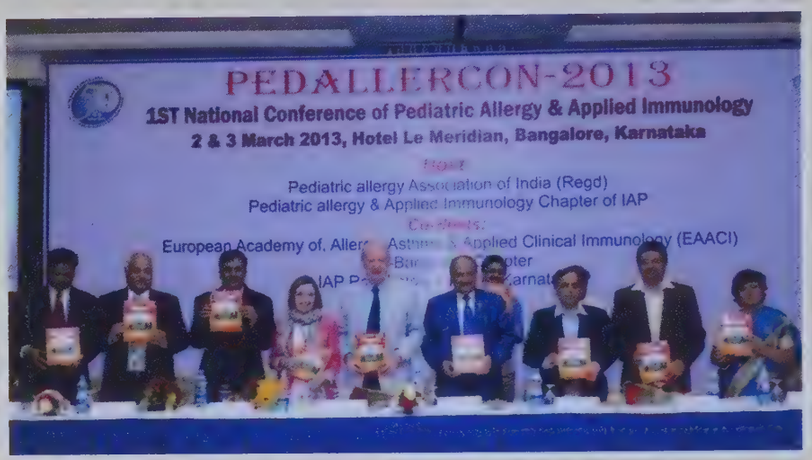


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PEDALLERCON 2013 - First National Conference on Pediatric Allergy and Applied Immunology 2nd & 3rd March, 2013, Hotel Le Meridian, Bangalore



Inauguration of the Conference
L-R : Dr. H. Paramesh, Chairman Organising Committee,
Maj. Nagaraju, Dr. Victoria Cardona,
Dr. Marcello Giovannini,
Dr. Govindarajulu, Dr. Mahesh P.



Release of Souvenir during the PEDALLERCON 2013
L-R : Dr. Karunakara, Dr. Khatib,
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Prof. Marcello Giovannini,
Dr. H. Paramesh, Dr. Vijay Yawale,
Dr. Babanna Hukkeri,
Dr. Shuba Badami



Dr. H. Paramesh honouring
Dr. K.S. Sriprakash
Chief Guest at
PEDALLERCON Inauguration



Dr. Vijay Yewale felicitating
Dr. Victoria Cardona,
Vice-President EACCI, Spain
L-R : Somasekhar, Dr. Karunakara,
Dr. Vijay Yewale, Dr. Victoria Cardona,
Dr. H. Paramesh



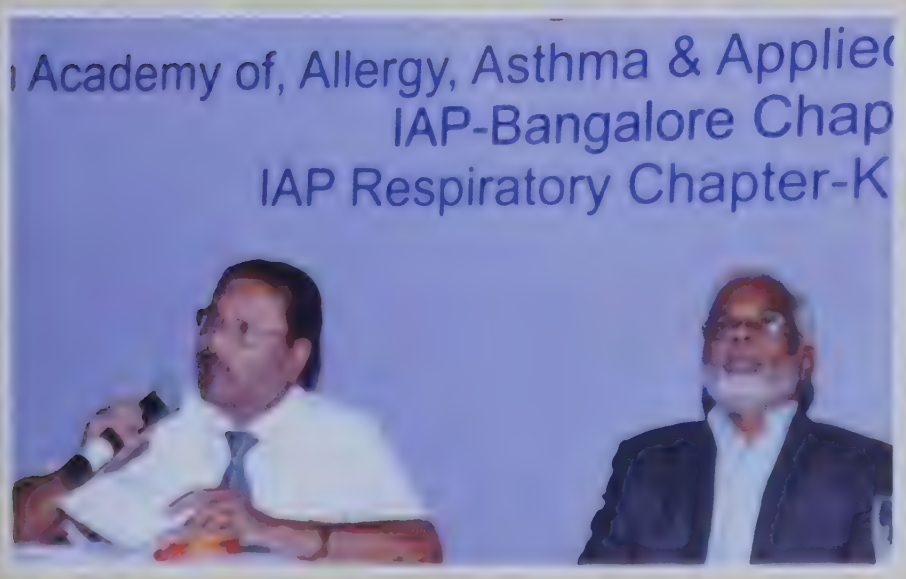
Dr. T.U. Sukumaran,
Past President IAP-National,
addressing the delegates



Dr. Sandeep Salvi, Director,
Chest Research Foundation, Pune,
addressing the delegates

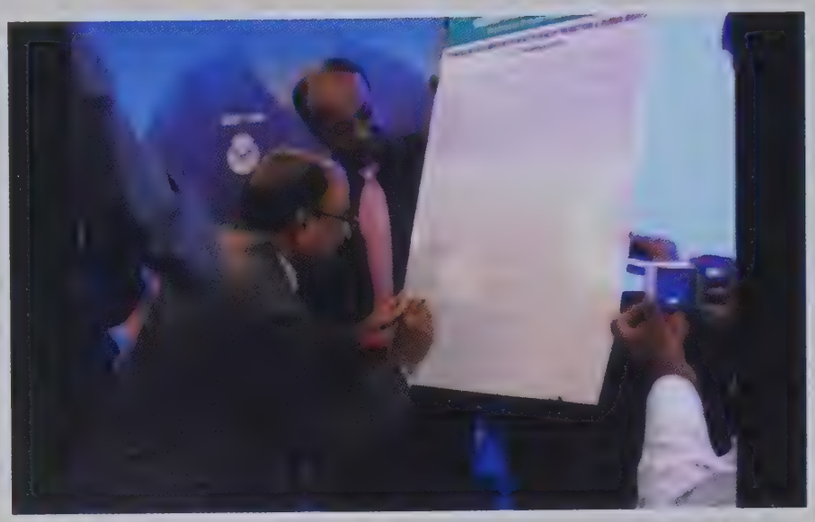


Dr. Vijayashekaran,
Pediatric Pulmonologist, Chennai,
addressing the delegates



Dr. G. A. Manjunath and
Dr. Vaman Acharya,
Chairman, Karnataka State
Pollution Control Board chairing a
session

WHO International Consultative Expert Meeting on Working Together for the Right to Health Nov. 21 & 22, 2012, Hotel Ashok, Bangalore



Dr. H. Paramesh signing the Right to Health Declaration at the end of the Conference



Dignitaries at the WHO International Consultative Expert Meeting



Roberta Ritson, WHO
- addressing the audience during the inauguration



Dr. Rudiger Krech, WHO
- addressing the audience during the inauguration



Dr. V.R. Pandurangi welcoming
Ms. Roberta Ritson at the Conference



Dr. Chandrashekar Shetty, Former VC, RGUHS, addressing the audience during the meeting

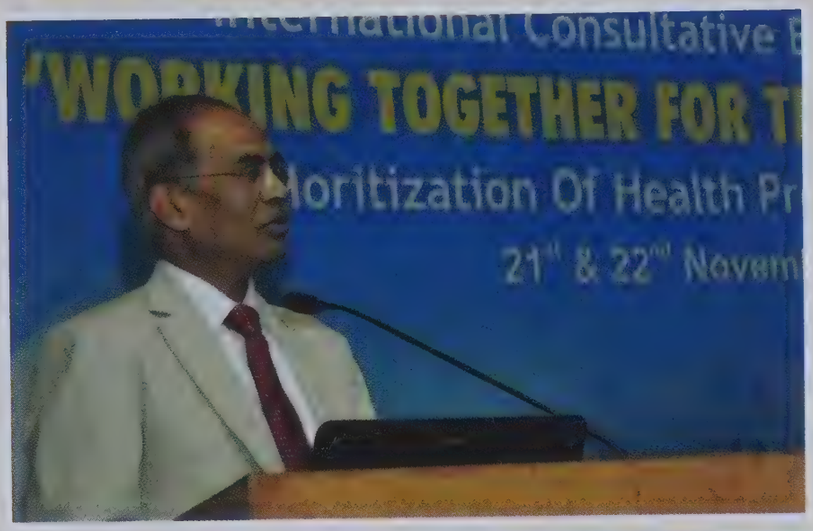


Dr. M.S. Mahadevaiah and
Dr. H. Paramesh chairing a session

Dr. H. Paramesh speaking to the audience on 'Rights of the Child and Environmental Health for Children'



Dr. K.S. Sriprakash VC, RGUHS addressing the inaugural session



Dr. K.S. Nagesh and Dr. Srinivasan presenting certificate of appreciation to Prof. Elizabeth C. Paramesh for her talk on Rights to Health for elderly



Valedictory session
Chief Guest Justice Shivaraj Patil being welcomed by
Dr. K.S. Sriprakash



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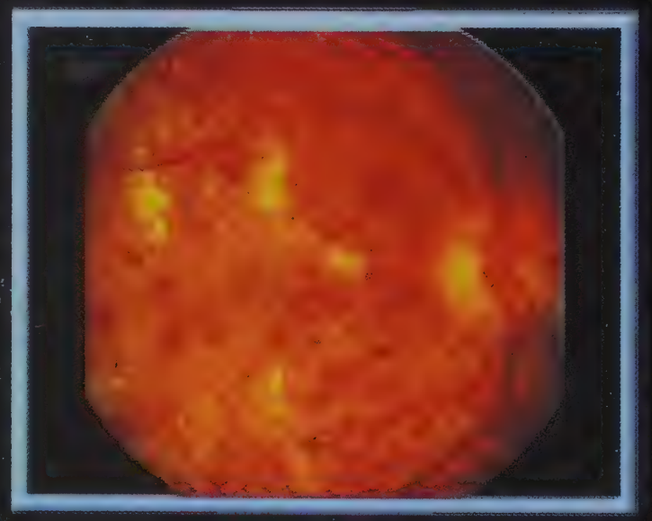
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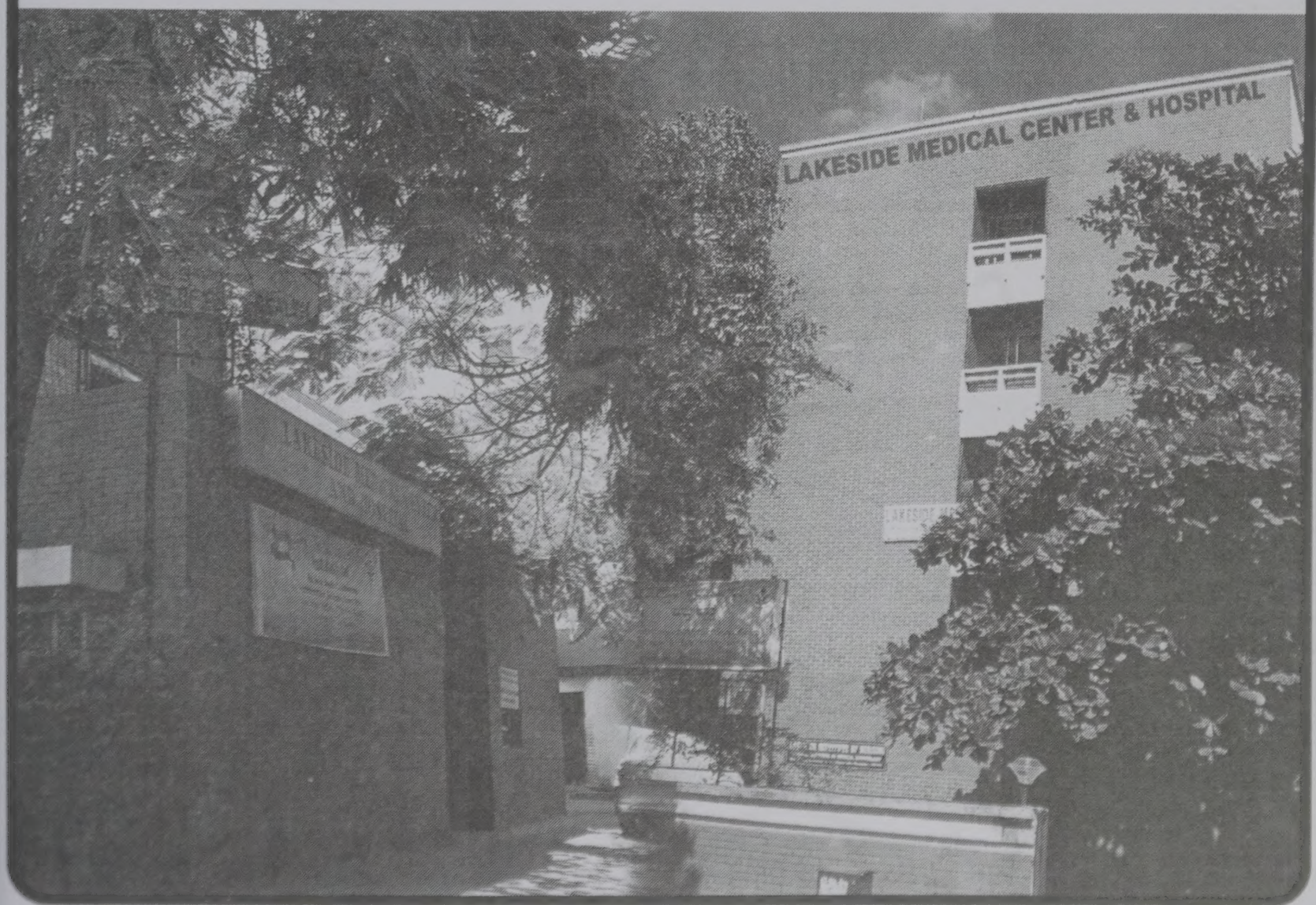
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